

# Duke Med

ALUMNI NEWS Spring 2019



# BIG DATA

DUKE POSITIONS ITSELF TO LEAD AS  
HEALTH CARE ENTERS A NEW ERA



## MESSAGE FROM THE DEAN

DEAR FRIENDS,

"Big data." It's a phrase we're all hearing more and more, and in this issue of *DukeMed Alumni News*, you'll read about Duke's leadership in this burgeoning area of research. Almost two years ago, we accelerated our momentum with the recruitment of Rob Califf, MD, back to Duke after serving as FDA commissioner from 2015-2017. Under Dr. Califf's leadership as vice chancellor for health data science for Duke University

and as the inaugural director of Duke Forge, Duke's center for actionable health data science, we are making exciting progress as we address the critical question: How do we use the wealth of data available in today's information-heavy society to make the most positive impact on patients?

Part of that discussion centers around the idea of sharing data, referred

to today as "open science." In Washington, D.C., in February, Duke hosted a group of national thought leaders from academia, government, the pharmaceutical industry, and advocacy groups to discuss this important and timely topic. Among the issues we addressed: What are the advantages of sharing research data, and are there any pitfalls or unintended negative consequences of doing so? The discussion was rich and engaging, and Duke is committed to continuing to be a leader in this dialogue as we search for answers.

As always, you'll also find in this issue of *DukeMed Alumni News* lots of news about our faculty, staff, and students: their achievements, their service to the community and the world, and the recognition they have received from their colleagues at Duke and from prestigious national and international organizations.



In February, Duke University and eight departments in the School of Medicine were ranked in the top 10 in the nation in funding received by the National Institutes of Health, according to Blue Ridge Institute for Medical Research. Shelley Hwang, MD, was the top-ranked surgeon, while Bart Haynes, MD, was the top-ranked researcher in internal medicine. Dr. Hwang specializes in breast cancer, and Dr. Haynes leads our Duke Human Vaccine Institute.

Even as we applaud the work being done by the exceptional physician-scientists already at Duke, we are working hard to attract outstanding new faculty. During the past year, more than 12 new researchers have joined Duke as Translating Duke Health scholars. These new faculty members—representing a spectrum of career stages—were recruited to Duke because of their expertise in high-impact fields including transplantation, neurosurgery, gene therapy, HIV, and more. They will work with faculty across the school to advance research aimed at addressing major health challenges in five key areas: cardiovascular disease, children's health, brain metastasis, brain resilience, and immunology. These hires represent the first wave of a large recruitment effort that will continue as this initiative moves into its second year.

I am enormously proud of our community of faculty, staff, and students in the School of Medicine, and I am tremendously grateful to our outstanding alumni and supporters. The future looks bright, and I am excited about what lies ahead!

Sincerely,

**Mary E. Klotman, MD, BS'76, MD'80, HS'80-'85**

Dean, Duke University School of Medicine,  
Vice Chancellor for Health Affairs, Duke University

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**Your comments, ideas,  
and letters to the editor  
are welcome.**

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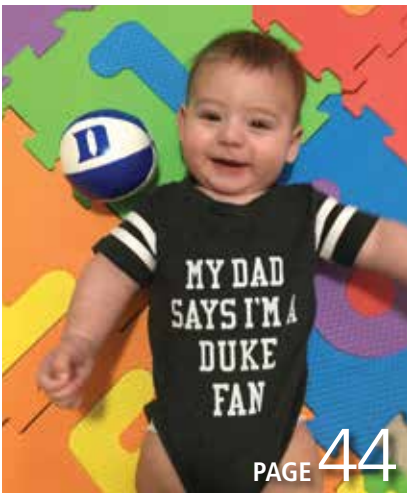
Associate Dean for Strategic  
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#### Judy Seidenstein

Associate Dean and  
Chief Diversity Officer



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Ian David Weiss / 5 months old  
PARENTS:  
Sari and Stefan Weiss, MD'01, MHSc'00



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Brenda Armstrong, left, mentored generations of medical students.

## ARMSTRONG LEAVES A LEGACY OF DEDICATION AND SERVICE

**Brenda Armstrong, AB'70, MD, HS'75-'79**, who served Duke University School of Medicine for more than 20 years as associate dean for admissions and most recently as senior associate dean for student diversity, recruitment, and retention, died October 7, 2018. She was 69.

Armstrong was passionate about people, especially young people, and she committed her life to helping ensure that every person was valued, treated with respect, and offered opportunities to learn and prosper.

During Armstrong's tenure, she worked with national and school leaders to recruit and attract the very best classes of medical students in the nation to Duke. She is credited with recruiting the most diverse classes in the school's history. She mentored hundreds of students and trainees and considered that her most important job. In 2017, she was inducted into the Student National Medical Association Hall of Fame.

"Under her leadership, Duke's Admissions Committee created an admissions process that values academic talent, leadership, altruism, and the diversity that enriches our school and our community," said **Mary E. Klotman, BS'76, MD'80, HS'80-'85**, dean of Duke University School of Medicine. "Duke is recognized today as a leader in embracing diversity, due in no small measure to Dr. Armstrong's efforts."

A professor in the Department of Pediatrics, Armstrong was the second African American

woman in the United States to become a board-certified pediatric cardiologist. Her passion was bringing high-quality medical care to underserved populations in Durham and beyond.

Armstrong was among the first African American students to attend Duke University as an undergraduate. In 1967, she and her peers established the Afro-American Society, and Armstrong served as its president. She earned her medical degree at St. Louis University School of Medicine, where she was the only African American woman student for three of her four years of training.

**"Her boldness and courage in leading successful civil rights and equality efforts at Duke, as well as throughout the community, are legendary."**

A. EUGENE WASHINGTON



"Brenda was a brilliant physician, educator, and researcher whose many significant contributions improved the lives of countless people," said A.

Eugene Washington, MD, Duke University's chancellor for health affairs and the president and chief executive officer of the Duke University Health System. "Her boldness and courage in leading successful civil rights and equality efforts at Duke, as well as throughout the community, are legendary. She was a remarkable model for generations of medical students and was a respected and highly valued colleague and leader. She will be greatly missed, but her legacy will endure for decades to come through the many lives she touched."

## FAMILY MEDICINE AND COMMUNITY HEALTH WINS \$1.8M GRANT

The Duke Department of Family Medicine and Community Health has been awarded a \$1.8 million five-year grant by the Health Resources and Services Administration to create and implement a two-year community-based primary care fellowship program.

The goal of the Duke Primary Care Transformation Fellowship will be to train physicians and physician assistants to lead health care transformation and improve health within their communities and community-based practice settings.

The project, led by Anthony Viera, MD, MPH, professor and chair of family medicine and community health, will capitalize on the department's robust academic-community partnerships within the Duke Division of Community Health and nationally recognized education programs, such as the Duke Family Medicine Residency, Duke Physician Assistant Program, and Duke Master of Health Sciences in Clinical Leadership. The fellowship will seek to train six to eight fellows per year.

## SCHOOL OF MEDICINE CONVENES OPEN SCIENCE FORUM

Thought leaders from across the nation converged in Washington, D.C., at the National Academy of Sciences on February 17, 2019, for a roundtable discussion about the concept of open science.

Duke University School of Medicine convened the group to address the idea of researchers and sponsoring entities sharing their data from early-phase clinical research with the larger research community, patients, and the public at large.

Thirty-four participants representing academic, industry, government, foundations and patient groups participated in a daylong discussion.

## HEFLIN TO LEAD NEW CENTER FOR INTERPROFESSIONAL EDUCATION AND CARE

Mitchell T. Heflin, MD, MHS, associate professor of medicine, has been named associate dean for interprofessional education and care and director of the new Center for Interprofessional Education and Care, effective July 1, 2019.

In 2018, the Schools of Medicine and Nursing signed a collaborative agreement to establish the Duke Health Center for Interprofessional Education and Care (IPEC). As a priority goal of the education pillar of the 2016 Duke Health Strategic Framework, the creation of the center will provide an

organizational home for this new initiative and will advance interprofessional education, research, and collaborative practice across Duke Health.

Heflin brings a wealth of experience in interprofessional practice, care, and education to the position. He earned his medical degree from the University of Virginia and completed his residency in internal medicine and fellowship in geriatrics at Duke University. He is a Senior Fellow in the Aging Center at Duke and serves as medical director of the Geriatric Evaluation and Treatment Clinic and co-directs the Perioperative Optimization of Surgical Health programs at Duke and Durham VA. He is also program director for the Geriatric Medicine Fellowship Program and co-director of the Duke Geriatric Workforce Enhancement Program.



Sallie Permar, center, is the new associate dean for physician-scientist development.

## PERMAR LEADS NEW OFFICE OF PHYSICIAN-SCIENTIST DEVELOPMENT

Duke University School of Medicine last fall created a new Office for Physician-Scientist Development and named Sallie Permar, MD, PhD, associate dean for physician-scientist development to lead the new office.

The Office for Physician-Scientist Development will serve as the School of Medicine's central

resource and will collaborate with departments, centers, and institutes to support the training needs and early faculty transition of physician-scientists.

Permar is a physician-scientist focusing on the prevention and treatment of neonatal viral infections. In her role as associate dean, Permar will focus on the recruitment, retention, and development of physician-scientists in all departments, centers, and institutes within the School of Medicine. She and her team will facilitate a strategic plan for physician-scientist development growth areas and develop new initiatives related to physician-scientist research and training.

## Duke Among Top Recipients of NIH Funding

Duke University received **\$384.6 million** last year from the National Institutes of Health (NIH) to advance medical research, ranking ninth in the country among universities, research institutions, and teaching hospitals that are awarded taxpayer-based research dollars.

Duke was the largest recipient of NIH grant funding in North Carolina for fiscal year 2018, according to the Blue Ridge Institute for Medical Research, which publishes an annual analysis of NIH funding. The Duke University School of Nursing ranked eighth in NIH-funded research, representing **\$5.2 million** in funding.

Eight clinical departments in the Duke University School of Medicine ranked among the top 10 for NIH research dollars:

- **Surgery: 1st**, \$30.2 million in grant awards
- **Pediatrics: 2nd**, \$39.5 million
- **Neurosurgery: 3rd**, \$8.1 million
- **Medicine: 5th**, \$133.9 million
- **Psychiatry: 5th**, \$39.6 million
- **Orthopedics: 6th**, \$5.2 million
- **Anesthesiology: 7th**, \$5.8 million
- **Ophthalmology: 8th**, \$9 million

Additionally, three basic science departments were also included among the top 10 for funding:

- Biostatistics and Bioinformatics: **2nd, \$18.3 million** in grant funding
- Molecular Genetics and Microbiology: **9th, \$19.8 million**
- Pharmacology and Cancer Biology: **6th, \$15.7 million**

The NIH is the largest public funder of biomedical research in the world, investing more than \$32 billion a year to advance research aimed at improving health.



## DUKE RECEIVES \$9 MILLION GRANT TO PROMOTE GENOMIC MEDICINE

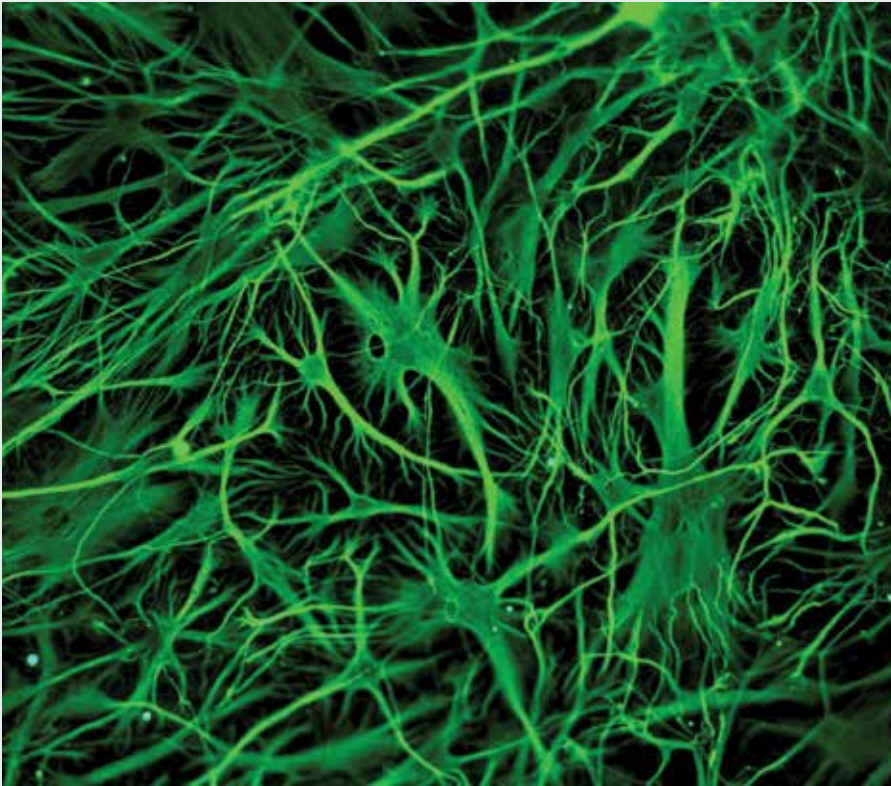
The Duke Clinical Research Institute (DCRI), in concert with the Duke Center for Applied Genomics and Precision Medicine, will serve as the coordinating center for a new project to promote genomic medicine in clinical practice.

The National Human Genome Research Institute, which is part of the National Institutes of Health, has awarded two grants to Duke that will total about \$9 million over five years.

One grant establishes the Duke Center for Applied Genomics and Precision Medicine, in partnership with the DCRI, as the coordinating center for a national initiative to move genomic medicine into

broader clinical practice.

An additional grant from the National Human Genome Research Institute will fund one of the genomic network's projects. The grant supports an initiative at Duke to gather the family medical histories of low-income patients to assess inherited risks for cancer, cardiovascular diseases, and liver diseases.



Researchers will study the role of astrocytes, star-shaped cells in the brain.

## Trio Wins Grant to Study Cells Involved with Parkinson's

Three Duke researchers have received a grant of more than \$1 million to study the role of astrocytes—common, star-shaped support cells within the brain—in the development of Parkinson's disease. The award is part of more than \$64 million in funding given by the Chan Zuckerberg Initiative (CZI), which brings together experimental scientists from a variety of fields to better understand the root causes of neurodegenerative disorders.



Cagla Eroglu, PhD, associate professor of cell biology, will serve as lead principal investigator, along with Nicole Calakos, MD, PhD, professor in neurology and neurobiology, as the clinical principal investigator, and Al La Spada MD, PhD, professor of neurology. Their research will examine how genes associated with Parkinson's disease function in astrocytes, which control neuronal health throughout the brain. The team hopes to identify how genes associated with Parkinson's are expressed by astrocytes, and how the resulting astrocyte dysfunction leads to neuron loss and neurodegeneration.

## Duke Again Ranked Among Nation's Best

Duke University School of Medicine is once again among the best in the nation, according to the 2020 *U.S. News & World Report* rankings. The annual assessment of 120 medical schools, released in March 2019, ranked Duke 13th, tied with the University of Pittsburgh and Yale University. The medical school's Physician Assistant program was again ranked No. 1, tied with the University of Iowa, among 169 programs evaluated—a top spot it has held for several years.

Eight of the School of Medicine's clinical departments ranked in the top 10 among specialties:

- **Surgery: 2nd**
- **Internal Medicine: 4th**
- **Anesthesiology: 5th**
- **Radiology: 6th**
- **Psychiatry: tied, 6th**
- **Obstetrics and Gynecology : tied, 8th**
- **Pediatrics: tied, 10th**
- **Family Medicine: 10th**

*U.S. News* annually ranks graduate schools in six disciplines, including business, law, medicine, nursing, engineering and education. The magazine uses criteria such as grade-point averages of incoming students, acceptance rates, and employment outcomes of graduates. For medical schools, the magazine also weighs NIH funding, NIH funding per faculty member, medical school entrance scores, and grade point averages, among other criteria.

## TRANSLATING DUKE HEALTH NAMES NEW RECRUITS AND PILOT PROJECTS

In its first 18 months, the Translating Duke Health research initiative recruited 15 new faculty members from various biomedical fields to Duke and funded 17 innovative pilot projects aimed at accelerating knowledge in cardiovascular disease, children's health, brain metastasis, brain resilience, and immunology.

Translating Duke Health, launched in September 2017, is a multi-year commitment by Duke Health leadership to fund research projects aimed at improving health care in five key areas of medicine where expedited research has the most potential to be beneficial to society.

The new faculty members, known as Translating Duke Health Scholars, were recruited to Duke because of their expertise in fields including transplantation, neurosurgery, gene therapy, HIV, and more.

The first round of pilot research projects were received in response to a call for proposals that emphasized interdisciplinary collaborations and had the potential to lead to fu-

### TDH DETAILS

**15** new faculty members  
**17** innovative pilot projects  
**\$10 million**  
to support research infrastructure

Translating  
Duke  
Health

ture funding from external groups.

Awardees received grants of up to \$480,000, and each initiative awarded between two and four grants. Additional recruiting and research proposals are ongoing.



Duke University Hospital and Duke Health leaders, team members, and community partners gathered April 2 to celebrate a construction milestone for one of Duke Health's latest growth projects. The new Bed Tower Addition is set to open in 2021. The 350-bed tower will upgrade, but not expand, the hospital's current bed count, providing efficient operational flows and maximized teamwork throughout DUH.

Above, **Dean Mary E. Klotman, BS'76, MD'80, HS'80-85**, was there to add her signature to the topping off beam.



## Radiologists Develop Models to Test Space Travel Risk

Two Duke University School of Medicine researchers helped develop lifelike human models to be flown to the moon and back to measure radiation exposure in space.

Paul Segars, PhD, associate professor of radiology, and Ehsan Samei, PhD, professor of radiology—both researchers at the Carl E. Ravin Advanced Imaging Laboratories at Duke—worked with manufacturing company CIRS to develop the models, called “phantoms,” which are fitted with more than 1,400 sensors. In 2020, two phantoms will be strapped into NASA's Orion spacecraft and will blast off for the moon.

The mission is a collaboration between the German Aerospace Center, NASA, and the Israeli Space Agency. The project will mark the first time that scientists collect data on radiation exposure beyond the orbit of the international space station. The ultimate goal is to explore the possibility of sending humans to Mars.

The models were originally created to investigate medical procedures, but they are also useful for measuring radiation exposure in other environments, including space.



## NOBEL WINNER DID EARLY AWARD-WINNING WORK AT DUKE

George P. Smith, one of three winners of the 2018 Nobel Prize for Chemistry, did some of the early work for his award-winning research at Duke University School of Medicine.

Smith, a distinguished professor emeritus of biological sciences at the University of Missouri, developed a technology known as “phage display” that allows scientists to better study interactions between proteins, peptides, and DNA.

The discovery has been applied to developing antibody therapies for cancer, rheumatoid arthritis, and multiple sclerosis.

Prior to publishing his phage display paper in the journal *Science* in 1985, Smith went on sabbatical from Missouri and came to work at Duke with **Robert Webster, PhD’65**, professor emeritus of biochemistry.

“Much of this work was performed at Duke University in the laboratory of R.E. Webster, whom I thank for supporting this work and supplying the environment in which it was carried out,” states Smith in the acknowledgement section of the paper.

## SOM Faculty Among Most Highly Cited Researchers

Twenty-six Duke University School of Medicine faculty members were included in the 2018 Highly Cited Researchers list compiled by Clarivate Analytics and Web of Science. Eighteen researchers from other Duke University units were also included.

Duke is tied for 12th in the worldwide rankings and is ninth among U.S. institutions by number of highly cited researchers in 2018.

The list of 6,078 names recognizes world-class researchers for their production of multiple highly cited papers that rank in the top one percent by citations for their field over the past decade (2006 to 2016), based on Web of Science data. The full list is available at [hcr.clarivate.com/](http://hcr.clarivate.com/).

Duke’s most highly cited researchers this year come from the Duke Human Vaccine Institute, the Duke Clinical Research Institute, the Duke-NUS Medical School, The Duke Institute of Brain Sciences, and the Department of Population Health.



KLOTMAN  
KRAZIES





Dean Mary E. Klotman, BS'76, MD'80, HS'80-85, draws a crowd before a Duke basketball game at Cameron Indoor Stadium.



WATCH THE VIDEO:  
[bit.ly/2CzZwQ6](https://bit.ly/2CzZwQ6)



## NOTE TO READERS



### EXPLOSION DAMAGES DHDAA BUILDING

You may have heard about the gas explosion in downtown Durham, North Carolina, on April 10, 2019. The Duke Health Development and Alumni Affairs (DHDAA) office received severe damage from the explosion. A number of staff members were sent to and released from the hospital due to related injuries from the blast.

Though it was a traumatic day for us, we are grateful that all members of the DHDAA team are safe.

The entire DHDAA team, consisting of over 100

colleagues, has been displaced from our work space. We are looking for temporary quarters, and this process may take a few weeks.

We appreciate your patience as we begin to adjust to a new normal. We will check email and voicemail when we can and try to get back to you in a timely manner.

Updates will be posted on our website, **giving.dukehealth.org**, as information becomes available.

We are so grateful for the many expressions of concern we have received, and it is our hope to reach out to you personally in the coming weeks.

Thank you for your understanding and continued support.

# Save the Date

## for Medical Alumni Weekend! November 7-10, 2019



### Thursday

Medical Alumni Association  
Awards Dinner

### Friday

Golden Blue Devils and  
Class of 1969 Luncheon

Welcome Reception

### Saturday

Breakfast with the Dean

Notre Dame vs. Duke Football Game

Class Gatherings

### HOST HOTEL

Washington Duke Inn  
3001 Cameron Boulevard, Durham  
Phone 919-490-0999

### QUESTIONS?

Brenda Rimmer 919-385-3177

### REGISTRATION

Registration opens in August, so keep an eye out for detailed event and registration materials in your mailbox this summer and online at [medalumni.duke.edu](http://medalumni.duke.edu)!

 **Duke Medical**  
Alumni Association



## CANCER DRUGS REPAIR DAMAGE FROM BACTERIAL LUNG INFECTIONS

Some cancer drugs are able to halt life-threatening bacterial lung infections in mouse models by promoting lung repair, researchers at Duke have found.

Reporting in the *Proceedings of the National Academy of Sciences*, the research team said that if the findings are confirmed in human studies, the drugs could point to a new weapon against bacterial pneumonia, which afflicts 50,000 people in the U.S. each year.

With the emergence of resistant bacterial strains, there is an urgent need to identify novel therapies, said senior author Ann Marie Pendergast, PhD, vice chair of the Department of Pharmacology and Cancer Biology at Duke University School of Medicine.

The researchers focused on a family of cellular enzymes called the Abl kinases. When researchers used a drug to inhibit Abl kinase activity in mice exposed to bacterial pneumonia, the treated mice recovered much faster than mice given placebo.



JARED LAZARIUS

Richard Mooney studies the neurobiology of communications.

## Social Connection Plays Role in How Birds Learn to Sing

Duke scientists have identified a social component in juvenile birds' ability to learn songs from an adult.

Young zebra finches must learn birdsong from an adult tutor in order to ultimately attract a mate. The new study, led by Richard Mooney, PhD, the George Barth Geller professor of neurobiology, and published in the journal *Nature*, showed that being near a singing tutor activates connections between a social area of the young bird's brain and the part of the brain responsible for the ability to sing. If those connections aren't activated, a young finch fails to copy the tutor's song.

Birds are one of the few organisms besides humans in which a behavior is transmitted from one generation to the next by imitation as opposed to genetic inheritance. Studying how birds learn lets researchers explore how a young learner memorizes someone else's actions and then learns to imitate those actions.

## Residents Near Large Hog Farms Have Higher Death Rates

Duke researchers have found that North Carolinians who live near large hog farms have higher death rates from a variety of causes than comparable state residents who live farther away from such facilities.

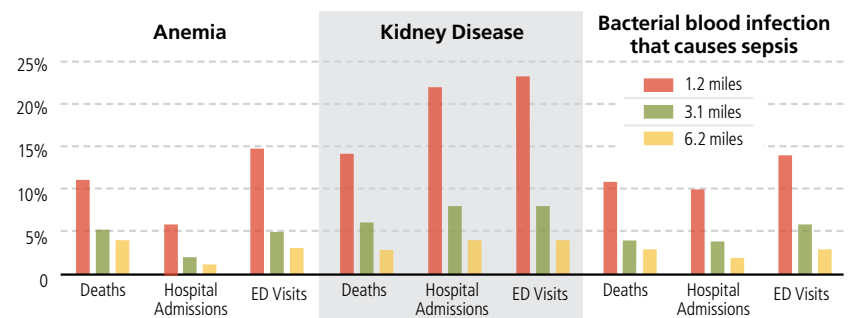
The study, published online in the *North Carolina Medical Journal*, does not establish that hog farms cause higher risk, but it does point to potential health risks. Life expectancy in North Carolina communities near large hog farms remains low, even after adjusting for socioeconomic factors that are known to affect people's health and lifespan, said senior author **H. Kim Lyerly, MD, HS'83-'90**, George Barth Gellar Professor of Cancer Research, professor of surgery, pathology, and immunology and director of the Environmental Health Scholars Program at Duke, and Julia Kravchenko, MD, PhD, assistant professor at the department of surgery

The study found that proximity to large hog farms was associated with increases in hospital admissions and emergency department visits, and with higher death rates in all studied diseases, including infant mortality, anemia, kidney disease, and tuberculosis.



ASSOCIATED PRESS

### Increased risk of mortality, hospital admission, and ED visit in NC communities located within different distances from hog farms







Rowena Dolor and Michael Cuffe

# The Opportunity to Succeed

Few people are more thoroughly steeped in Duke Blue than **Michael Cuffe MD'91, HS'91-'95, HS'96-'98, MBA'09**, and **Rowena Dolor Cuffe, AB'87, MD'91, HS'91-'94, MHS'98**. They met at Duke as medical students, stayed to complete residencies and fellowships, and both joined the faculty and served in leadership positions. Rowena even earned her bachelor's and master's degrees here, and one of their sons is a current Duke undergrad.

“...it's important for us to help make that happen for those who come after us.”

Michael Cuffe

The Cuffes have given back in countless ways, through service and philanthropy. “I started giving to the Davison Club as a medical student,” says Rowena. “And we've given as a couple for many years.”

It's all about paying it forward. “We've seen Duke from just about every perspective,” says Michael. “We know what a difference philanthropy makes. Duke gave us the opportunity to succeed beyond all our expectations, and it's important for us to help make that happen for those who come after us.”

It's all about paying it forward. “We've seen Duke from just about every perspective,” says Michael. “We know what a difference philanthropy makes. Duke gave us the opportunity to succeed beyond all our expectations, and it's important for us to help make that happen for those who come after us.”

Gifts to the Davison Club provide critical unrestricted support for medical education through scholarships, curriculum enhancements, new technologies, and innovative research. **Make your gift online at [gifts/duke.edu/daa](https://gifts/duke.edu/daa).**

To learn more about supporting the Davison Club, please contact **Stacy Davis**, director of constituency and pipeline development, at **919-385-3188** or **[stacy.davis@duke.edu](mailto:stacy.davis@duke.edu)**.

DAVISON CLUB





## Nerve Stimulation May Reduce Post-Operative Delirium

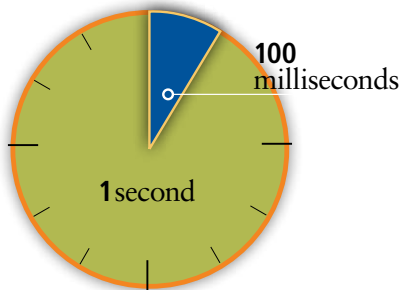
Surgical complications can diminish mental sharpness in patients over age 65, with more than half of high-risk cases declining into delirium.

In research published in the journal *Brain Stimulation*, Duke University School of Medicine scientists showed in a mouse model that a current treatment for seizures can also reverse brain inflammation, such as inflammation after

surgery, and the subsequent confusion or cognitive decline that results.

The therapy involves minimally invasive stimulation of the vagus nerve using small electrical pulses. The team led by Niccolò Terrando, PhD, associate professor of anesthesiology, found that stimulating the nerve in mice with inflammation improved cognitive outcomes and reduced brain inflammation.

Researchers hope to refine the technique into a completely non-invasive approach to preventing cognitive decline when seniors and other at-risk patients have surgery.



## Brain-Gut Link May Be Much Faster Than Previously Thought

The gut-brain connection is well established; scientists believe that links between the brain and microbiota in the gut plays a role in a surprising array of disorders. Recent research by Duke scientists suggests that signals from the gut may reach the brain much more rapidly than previously thought.

Scientists led by Diego Bohorquez, PhD, assistant professor of medicine at Duke University School of Medicine, traced a fluorescent rabies virus as it traveled from the intestines to the brainstem in mice. They were shocked to see the signal cross a synapse in less than 100 milliseconds: faster than the blink of an eye.

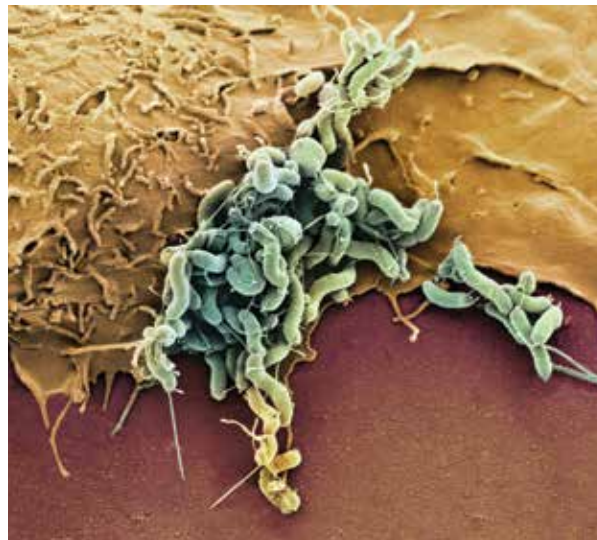
Previously, scientists had suspected that signals from the gut were transmitted to the brain via hormones in the bloodstream, a process that typically takes minutes to hours. The results of the new study, published in *Science*, suggest a much more direct neural circuit pathway.

## STOMACH CANCER BUG PLAYS POSSIBLE ROLE IN COLORECTAL CANCER

A bacterium known for causing stomach cancer might also increase the risk of certain colorectal cancers, particularly among African Americans, according to a study led by Duke Cancer Institute researchers.

The finding, published online in the journal *Gastroenterology*, describes an association between antibodies to *H. pylori* bacteria and an increased risk of colorectal cancers, although it does not establish the bacteria as a definitive cause; those studies are ongoing.

But in an analysis of more than 4,000 colorectal cancer cases culled from large, diverse cohort studies, the researchers, led by Meira Epplein, PhD, associate professor in population health sciences and medicine and co-leader of Cancer Control and Population Sciences at Duke Cancer Institute, found a significant correlation between colorectal cancer incidence and those who had been infected with a virulent strain of *H. pylori* that is especially common among African Americans.



The bacteria *H. pylori* may increase the risk of certain cancers.



## SCIENTISTS IDENTIFY 'YOUTH FACTOR' THAT SPEEDS FRACTURE HEALING

Duke researchers believe they have pinpointed the "youth factor" inside bone marrow stem cells that speeds the healing process in bone fractures.

Researchers led by Benjamin Alman, MD, chair of the Department of Orthopaedic Surgery, had previously shown that introducing bone marrow stem cells to a bone injury can expedite healing, but the exact process was unclear.

Now the same team has identified the probable key factor: a type of white blood cell called a macrophage and the proteins it secretes. Young macrophage cells introduced to fracture sites in older mice improved bone healing.

Alman said the study, published in *Nature Communications*, suggests a new therapeutic approach to fracture rejuvenation. Finding ways to speed bone repair, especially in older patients, is a public health priority that could save both lives and health care expense.

# Nurturing Young Careers



SUSAN REEVES/DUMIC PHOTOGRAPH

Sara E. Miller and David N. Howell

“We want to foster teaching as well as research. We’re excited about the prospect of helping nurture a young faculty member’s career.”

David N. Howell

Like a lot of alumni, **David N. Howell, AB’76, MD’84, PhD’82, HS’84-’85, ’86-’87**, learned from a number of influential mentors when he was a student and trainee at Duke. Unlike most, he married one of his.

Sara E. Miller, PhD, was a young faculty member doing pioneering work in electron microscopy when Howell took her course as a graduate student. That class helped define his path both personally and professionally; some years later he and Miller were wed, and electron microscopy has been an essential tool throughout his career as a pathologist.

Both Howell and Miller are professors of pathology at Duke. Between them, they’ve been at Duke in one capacity or another for almost 100 years in aggregate.

Recently they made a substantial gift to create an associate/assistant professorship of correlative pathology.

“We’ve been very supported by the university, and we wanted to give something back,” says Howell. “Teaching is important to both of us, and of course we met in the context of her being a teacher. We want to foster teaching as well as research. We’re excited about the prospect of helping nurture a young faculty member’s career.”

To learn more about how you can direct your giving to support the Duke Health areas and programs most important to you, please contact **Sarah Nicholson**, assistant vice president for School of Medicine Development and Alumni Affairs, at **919-385-3160** or **sarah.nicholson@duke.edu**. Or you can make your gift online at **gifts/duke.edu/daa**.





William C. Andrews Jr., AB'76, MD'80, HS'82-'86, president, Davison Club



R. Sanders Williams, Mary E. Klotman, and Victor J. Dzau



Associate Professor Rowena Dolor Cuffe, AB'87, MD'91, MHS'98, HS'91-'94

The Davison Club celebrated its 50th anniversary on March 29 as more than 250 alumni, faculty, and friends gathered to mark the milestone. To date, the club, named in honor of founding dean Wilburt C. Davison, MD, has raised more than \$37 million for scholarships, educational enhancements, research, and discretionary funds.

To learn more about supporting the Davison Club, please contact Stacy Davis, director of constituency and pipeline development, at 919-385-3188 or [stacy.davis@duke.edu](mailto:stacy.davis@duke.edu).

## Davison Club 50th Anniversary Celebration

# 1969-2019

### Talks and Toasts Mark Half a Century of Support and Success




Student Mahsa Taskindoust, BS'15, MSII



Cheers for the Duke basketball team when they played Virginia Tech in the NCAA tournament.





Oluwadamilola  
"Lola" Fayanju and  
Erich Huang are  
among the School  
of Medicine faculty  
who use big data in  
their research.

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'BIG DATA' IS TRANSFORMING MEDICINE,  
AND DUKE IS AT THE FOREFRONT

# FORGING THE FUTURE

**W**elcome to the Revolution.

First came steam power, then electric power, and then the information age. Now, according to the World Economic Forum, we're entering the Fourth Industrial Revolution, as the sciences converge around digitized information and data in ways that disrupt nearly every field in every country.

Human health is one of the fields that will be—and, indeed, already is being—most transformed by this revolution, says Robert Califf, vice chancellor for health science data and director of Duke Forge, the School of Medicine's ambitious new hub for all things data science. That's why leading academic medical institutions like Duke must be in the vanguard of this profound change: to help society adjust and determine how best to organize, analyze, and use the growing abundance of data.

Technological advances within the past two decades have given us access to unprecedented amounts of information. Duke, with its

BY LAURA ERTEL / PHOTOS BY CHRIS HILDRETH



premier medical school, health system, professional education, and biomedical research enterprises, as well as top programs in engineering, computer science, statistics, social sciences, and policy, is perfectly positioned to play a critical role in determining how best to apply all this information to improve health—locally, nationally, and globally.

“Big data” is a phrase we’re starting to hear a lot, around medicine and in other fields. “It’s one of those terms that means different things to different people,” Califf says. “The fundamental way to think about it is, when data exceeds what you can handle on your standard laptop with your standard analysis packages, it’s ‘Big.’”

There may be no bigger or more complex collection of data than the human body. We have around 3.2 billion base pairs in our genome; multiple proteins and metabolites that interact at the level of tissues, blood, and organs; and myriad behavioral factors, social interactions, and environmental impacts. Until very recently, most of that stuff was invisible to us. No more.

“Until now, computing systems were unable to handle all of these multiple dimensions,” says Califf, professor of medicine and Donald F. Fortin, MD, Professor of Cardiology. “Now, with advanced technologies like whole genome sequencing, researchers can generate massive amounts of information relevant to health and health care at every level, from individuals to entire populations. The challenge is figuring out how to organize, analyze, and harness this huge quantity of data to produce better health care policies, practices, and health outcomes. With the digitalization of information—the Fourth Industrial Revolution—we are finally at a point where we can do this.”

### FROM INFORMATION TO IMPACT

**B**ig data, made up as it is of bytes and bits and data sets, can be a hard concept to get your arms around. Its great promise lies at the point where all those seemingly insubstantial particles of information intersect with real people—individuals, communities, and whole populations—facing real health challenges.

“Big data is very important for national health policy because it holds the potential to provide much more value in health care,” says Mark McClellan, MD, PhD, director of the Duke-Margolis Center for Health Policy and Robert J. Margolis, MD, Professor of Business, Medicine, and Policy. “That means more convenient care; it means lower-cost care because



**“Big data is very important for national health policy because it holds the potential to provide much more value in health care.”**

MARK MCCLELLAN



Michael Pencina

it can be targeted better; and it means better outcomes for people by knowing exactly what works best.

“The scope of data that is now available and the potential for generating relevant evidence on lots of questions that could never be answered before is unprecedented: How can a health care organization prevent heart attacks by addressing some of the social and community-based factors that influence how they manage their risk factors? What exact combination of treatments is needed for a patient with a certain type of cancer, or with a predisposition to dementia? How can we make decisions well and use our health care dollars most effectively?”

Those questions, and the potential they represent, fall squarely within the mission of Duke University School of Medicine and related units such as the Duke-Margolis Center, says **Dean Mary E. Klotman, BS’76, MD’80, HS’80-85**. She has made data science a top priority for the School of Medicine, last summer naming Michael Pencina, PhD, the new vice dean of data science and information technology. A senior member of her leadership team, Pencina is responsible for developing and implementing quantitative science strategies as they pertain to the education and research missions of the school.

“The advent of big data, and our university’s commitment to this area of opportunity, gives us an unprecedented ability to lead the way in improving health and health care while reducing costs and shedding inefficiencies,” says Klotman. “Our opportunity, and our obligation, is to bring the full spectrum of data science tools and expertise to bear on answering the hard problems and delivering care that improves outcomes, delivers value, and honors our commitment to access and health equity for vulnerable populations and communities.”

### THE FORGE

**T**hat’s where Duke Forge comes in. The School of Medicine launched “the Forge” in 2017 to act as a communication and knowledge hub to support and advance health data science being done throughout Duke, facilitating interactions and collaborations among scholars, clinicians, and experts across the

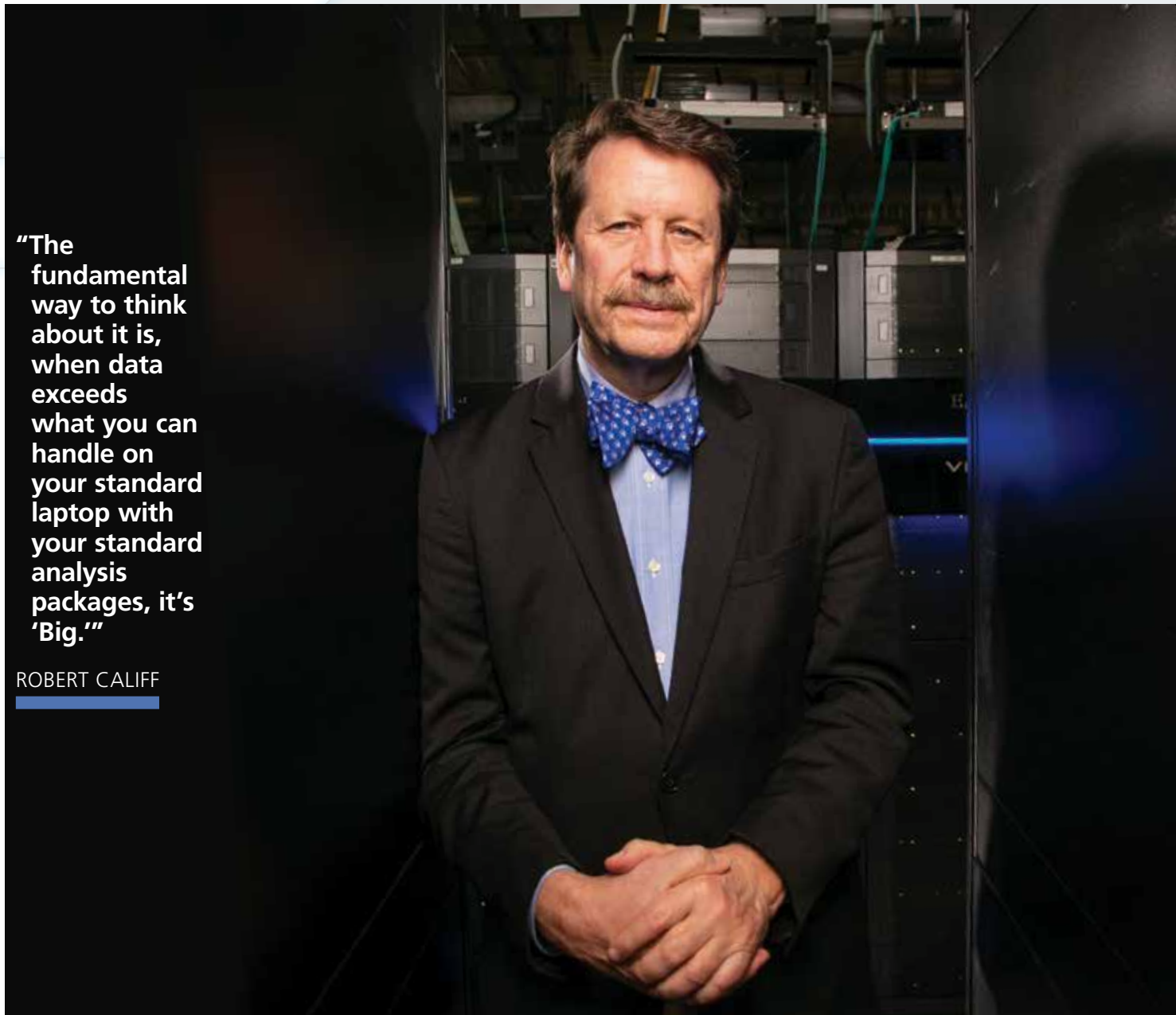
# Duke





**“The fundamental way to think about it is, when data exceeds what you can handle on your standard laptop with your standard analysis packages, it’s ‘Big.’”**

**ROBERT CALIFF**



university and beyond to develop actionable insights and improve health outcomes.

Califf, the former commissioner of the U.S. Food and Drug Administration, returned to Duke to direct the Forge. (Prior to his post at FDA, he was the founding director of the Duke Clinical Research Institute.) Califf’s unique professional arrangement is another boost to Duke’s efforts in this area: His time is split between Duke and Verily, which is part of Alphabet, Google’s parent company. The powerful ability of Alphabet’s enterprise to apply vast resources to handle large quantities of data and move it around the world provides a model for universities to consider when envisioning the future.

Vice Provost for Research Larry Carin, PhD, has been a major ally in the development of strategy for the Forge. Carin has played a key role in the recruitment of key faculty and the educational program called “+DS” across the university. +DS simply means: “Regardless of your field, you should add data science,” says Carin.

Duke currently ranks in the top 15 institutions in national rankings for machine learning and artificial intelligence, making it an ideal place for the work of the Forge. Duke Forge’s goal is to “free the data” by engaging partners to curate, analyze, and disseminate reliable and actionable information that leads to improved health for individuals and populations. The Forge spans multiple schools and departments at Duke, unit-

ing faculty, staff, and students in the challenge to create innovative ways to fuse fields like biostatistics and machine learning, implement the insights gained into patient care, and leverage digital information to improve health and prevent disease.

“Data by itself is less valuable than data joined with other types of data,” says Erich Huang, MD, PhD, co-director of Duke Forge and assistant professor of biostatistics and bioinformatics. “Duke Forge can help bring together electronic health record data, socioeconomic data, genomic data, even financial data. Big data is noisy and messy, but when you join different types of data together, it becomes easier to parse through and distinguish signal from





LESTODD

noise, which can help us determine what we should be doing from a health care standpoint to make an impact on patient outcomes.”

#### PRIORITIES AND PARTNERSHIPS

One of Duke Forge’s priorities is to deploy technology to address health disparities, particularly in specific urban neighborhoods and the vast expanse of rural America where health status is declining at an alarming rate, Califf says. “This is one of the main reasons I came back to Duke,” he says. “We have an important job to do now to level the playing field.”

The Forge also aims to enhance what is known as data liquidity—the ability to freely and efficiently move and share data—and ensure that information disseminated is accurate and trustworthy. Also high on the to-do list: preparing current and future generations of clinicians and scientists for a data-rich future.

A key element of the transformation of Duke’s health system will be the formation of “Learning Health Units,” which will place analysts and clinical information experts within operating units of the health system. This signature program, led by Adrian Hernandez, MD, vice dean for clinical research, will use modern analytics to guide clinical care to meet the “quadruple aim” of better clinical outcomes at a lower cost with a better experience for patients, their families, and clinicians in the system.

The Forge squad works closely with other university initiatives like the Rhodes Information Initiative at Duke, an interdisciplinary program designed to increase big data computational research and expand opportunities for student engagement in this rapidly growing field, and with faculty experts at other schools.

“The Forge brings together a core of thought leaders in data science and associated technology so we can assist Duke Health faculty in their research efforts,” Huang explains. “Most

**“Regardless of your field, you should add data science.”**

LARRY CARIN



Adrian Hernandez

of our clinician-scientists aren’t experts in data science—they’re experts in surgery or cardiology or their scope of practice. Our job at Duke Forge is to provide that expertise, advice, and assistance to them. When we marry the people who have the technical skills in the domain of big data with the people with the clinical domain expertise, that’s very powerful.”

#### CREATING A ROAD MAP FOR MEDICINE

In medicine, a key step to the data-driven future is to create an accurate “road map,” Califf explains. He likens it to his Alphabet colleagues, who are applying fourth-revolution concepts to driverless cars. “You can’t think about driverless cars unless you have mapped every single road in the country,” says Califf. “That mapping gives us the ability to integrate information from all those roads in real time, and even have a human voice share real-time decision support with you in an interactive manner.”

For human biology and health care, we don’t yet have that map, but Califf believes Duke will be instrumental in creating it.

“Not long ago, the ability to map the human condition was unthinkable,” he says. “But now, with the cloud and other massive changes that have occurred in computing, it’s actually possible to map out the biology and the behavioral factors and the social interactions and more. We’re in the very early phases of making the maps, but of course, health can’t wait, so we also have investigators here who are already applying these data science in exciting ways to improve health care.” (See *sidebars, pages 19-20*)

Revolutions are seldom tidy, and in the years ahead charting the big data revolution will present challenges we no doubt haven’t even thought of yet. But the potential for enormous change is invigorating, and few institutions in the nation can match the combination of strengths and resources that Duke can bring to the task, says McClellan.

“As a leading academic medical center and a global coordinator for clinical data, Duke is in a great position to help to pull together data on socioeconomic and non-medical factors that influence health, thanks to the strong programs that this university has and is building on related to population health and well-being,” McClellan notes. “And Duke has some of the world’s leading methodologic experts on how to turn data into evidence, in artificial intelligence and machine learning and system design. There are not very many places that can pull all of those critical pieces together.” ■



## BIG DATA IN ACTION



**"We have a tremendous data source in the electronic health record—vital signs, labs, co-morbidities, nursing assessments—that we can harvest to predict various disease states,"**

CARA O'BRIEN

## BUYING TIME TO SAVE SEPSIS PATIENTS

With sepsis, time is of the essence. Left untreated, the illness—a runaway immune response to infection—can quickly become life-threatening. Hours, and even minutes, can mean the difference between life and death for this condition, which strikes more than 1.5 million people and kills more than 250,000 Americans each year.

Because sepsis is nonspecific, there is no single definitive sign, symptom, or test that identifies a patient as having it. That's a huge challenge for providers, who need to assess patients as quickly as possible.

Duke hospital medicine physician Cara O'Brien, MD, is partnering with the Duke Institute for Health Innovation to lead a multidisciplinary team of physicians, nurses, and biostatisticians that is using data science to rapidly identify at-risk patients, speed treatment, and improve outcomes.

"We have a tremendous data source in the electronic health record—vital signs, labs, co-morbidities, nursing assessments—that we can harvest to predict various disease states," she explains.

O'Brien and her team culled over 32 million data elements from patients in Duke's electronic health record (EHR) system to identify key variables as potential predictors for sepsis. They created a predictive model and tested it on retrospective patient data, where they found that the model identified sepsis about five hours earlier than other models—a substantial lead time that would allow clinicians to start treatment much sooner. In November, they launched a real-time, prospective trial in the Emergency Department (ED) at Duke Hospital.

"Eighty percent of sepsis cases develop within the first six hours of a patient's hospital stay, likely either present at the time of arrival or developed soon after," O'Brien says. "That's why we chose to deploy our model in the ED first."

Any time an ED patient's EHR is updated, whether for vitals, labs, or assessments, that data is immediately fed through the model, which generates a risk score at that moment. A team of nurses monitors those risk profiles and alerts the ED staff of any high-risk patients so they can monitor and begin treatment quickly if sepsis appears.

Duke is the first health system in the country to implement a machine learning predictive model in real time to predict sepsis. If this trial is successful, this could be transformative for treatment of sepsis nationally and globally. ■

## FINE-TUNING TREATMENTS FOR BREAST CANCER

National cancer databases provide a ton of valuable information for researchers, but institutional data is often more granular, including details such as specific chemotherapy regimens, radiation doses, treatment durations, and recurrence rates. The Duke Breast Database (DB2), a big data initiative, is invaluable for health researchers like Oluwadamilola "Lola" Fayanju, MD, assistant professor of surgery and the principal investigator for the database.

"This volume, detail, and quality of data allow us to look at diversity of race, ethnicity, family history, socioeconomic status, and other factors that exist amongst Duke patients so we can better identify population-level trends in breast cancer treatment outcomes," Fayanju says. "We can even use big data to explore questions that extend outside the medical context, like: How does child care availability or access to transportation affect patients' ability to get the care they need?"

That's important information for Fayanju, a breast cancer surgeon whose research is aimed at improving the efficacy and equity with which breast cancer care is provided.

She is leading an analysis of patient-reported outcomes on the Distress Thermometer and Problem List, an ultra-short patient-reported outcome measure that is published by the National Comprehensive Cancer Network (NCCN) and used internationally, including at Duke Cancer Center, and completed at nearly every visit over the course of treatment. The results are entered into the patient's electronic health record.

"We are using data from 13,000 Duke Cancer Center visits by women diagnosed with breast cancer over 2.5 years to compare distress scores immediately after diagnosis, as well as longitudinally over the course of treatment," says Fayanju. "Our goal is to use this data to determine whether there are patient, disease, and/or treatment characteristics that are associated with higher or lower levels of reported distress. The hope is that, by identifying these characteristics, we can better inform and advise patients about which treatments are best for them, improve shared decision-making, and better identify potentially vulnerable populations by identifying this data en masse in a way that's never been looked at before." ■

**"Our goal is to use this data to determine whether there are patient, disease, and/or treatment characteristics that are associated with higher or lower levels of reported distress."**

OLUWADAMILOLA  
"LOLA" FAYANJU





**“It can pick up things that our eyes may not be able to see or our brains process, even with experience. When you need to make quick decisions, especially when a patient is unstable, that information is invaluable.”**

MANESH PATEL

“The computer can look at every single pixel of a digital angiogram (or an echocardiogram, or CT scan)—megabytes or gigabytes of data,” Patel notes. “It can pick up things that our eyes may not be able to see or our brains process, even with experience. When you need to make quick decisions, especially when a patient is unstable, that information is invaluable.”

In Project Deep Angio, Patel and co-investigator Ricardo Henao, PhD, an assistant professor in biostatistics and bioinformatics at Duke’s Pratt School of Engineering, teamed up with imaging company Image Share (founded by a Pratt graduate) to calibrate and measure stenosis, or blood vessel narrowing, on over 1,000 angiograms from Duke patients. Then they trained the computer to read each angiogram to assess the severity of each blockage.

“With the first thousand angiograms, we were able to get the computer’s readings to about 82 percent as accurate as the physician’s eyeballing” says Patel. “Now we’re training the computer with another couple of thousand angiograms, so it will keep learning and becoming more accurate.”

Eventually, Patel foresees, these algorithms will be incorporated into the angiogram software and machines around the world to help physicians analyze images consistently and in real time. Data patient outcomes can also be added, so computers can learn to identify which images are associated with future heart attacks, for example.

“With the revolution in computing power and digitalized information, we have an amazing opportunity to bend the curve of cardiovascular and human health to improve outcomes,” Patel says. “In areas where we, as practitioners, touch and interact with patients and make decisions, this technology can be supportive and efficiency-driving—to complement personal care, not replace it.” ■

## TRAINING COMPUTERS TO IMPROVE CARDIOVASCULAR CARE

**T**he Duke Division of Cardiology is using big data to help physicians analyze images from coronary angiograms more quickly and accurately.

A team led by Manesh Patel, MD, chief of the Division of Cardiology and co-director of Duke Heart, is creating computer algorithms that can analyze angiogram images in real time to identify significant blockages and abnormalities and help guide treatment decisions.





# Reunion Gift Opens Doors for Students

**W**hen it was time for Tai-Po Tschang, MD'72, to decide where to go to medical school, the choice could hardly have been easier. Duke, in fact, made it for him.

"I applied to nine medical schools, and Duke was the only one that accepted me," says Tschang. "I didn't have any other choice. The others turned me down because I only had three years of college, but at Duke that was the requirement, as long as you had all the prerequisites. I was very happy they took me."

It worked out well for all involved, actually. Tschang, who received a scholarship that paid his tuition at Duke University School of Medicine, earned his medical degree here, and after residencies at Washington University and St. Johns Mercy Hospital in St. Louis, he went on to a long and successful career as a clinical and anatomical pathologist. He's been practicing in Fresno, California, for more than 30 years.

Tschang, a longtime philanthropic supporter of Duke University School of Medicine, recently marked his 45th class reunion by making a significant estate endowment to establish the Tai-Po and Grace Tschang Medical Scholarship.

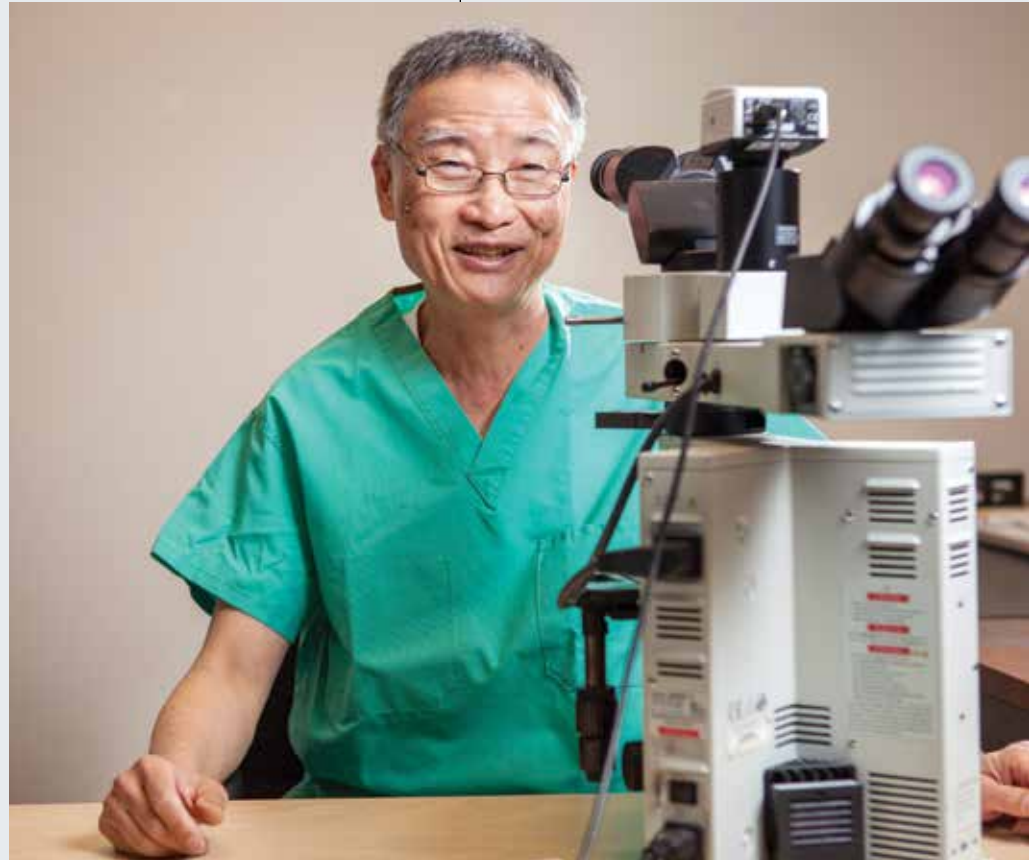
"I was the recipient of a scholarship that covered my entire four years at Duke, and it made all the difference," he says. "I was very grateful to Duke and to the scholarship fund for that. I wanted to support a medical school scholarship because of that."

Born in Taiwan, Tschang was in high school in Hong Kong when he read Tom Dooley's *The Night They Burned the Mountain*, a first-person account of a U.S. Navy doctor's work to bring medical care to rural Laos. "That book moved me quite a bit," he says. "I thought medicine would be a good field to go into."

It took some doing. Tschang had an older sister who was in the U.S., a student at the University of Southern Illinois in Carbondale. Tschang applied to the same school.

"My father gave me a plane ticket and \$500 in cash, and I got on a plane," says Tschang. "I could stay with my sister, so I had free lodgings. I made straight A's in the first quarter and got tuition aid from that point on."

He excelled at Southern Illinois. And, once he was accepted at Duke, he excelled at



CRAIG KOHRBUS

the School of Medicine as well.

Tschang has never forgotten that Duke was the only medical school willing to give him a chance way back when. So, when he came back for his 45th class reunion in 2017, he wanted to make a gift that would give other students the same sort of chance.

"Duke gave me an opportunity that I couldn't have had anywhere else," he says. "I hope other alumni will do the same thing and give back to Duke."

**"I was very grateful to Duke and to the scholarship fund for that. I wanted to support a medical school scholarship because of that."**

TAI-PO TSCHANG



# \$50 Million Grant to Propel the Sciences

**A** \$50 million grant from The Duke Endowment will accelerate and expand the recruitment of research scientists who specialize in the applied and basic sciences at Duke University.

The grant from The Duke Endowment, a private foundation based in Charlotte, will support the hiring of more than a dozen junior- to senior-level faculty in fields of science, medicine, technology, engineering and mathematics. This will allow Duke to expand areas of research and prepare students as future leaders in current and emerging professions.

The new faculty hires will advance research and scholarship at Duke that contribute to the betterment of humanity—both regionally and worldwide—by addressing such critical challenges as climate change and epidemic disease.

To deliver on the university's commitment to fostering connections, the new scientist-scholars will work with colleagues in multiple disciplines in Duke's Trinity College of Arts & Sciences, Pratt School of Engineering and School of Medicine.

With The Duke Endowment's investment, Duke will launch a targeted effort to recruit scientist-scholars who fit within a strategic vision of the institutions' greatest needs and potential.

"Our goal is to continue to build these intellectual bonds between Duke Health and the university, creating entirely new constellations of faculty, ideas, and applications that will take us

to higher levels of insight and excellence," said **Mary E. Klotman, BS'76, MD'80, HS'80-85**, dean of the Duke School of Medicine. "We will be looking for exceptional candidates who are asking the most interesting questions in key areas of fundamental science, and who share Duke's commitment to pursuing innovative, impactful research."

**"Our goal is to continue to build these intellectual bonds between Duke Health and the university, creating entirely new constellations of faculty, ideas, and applications that will take us to higher levels of insight and excellence."**

MARY E. KLOTMAN

*James B. Duke*

THE DUKE ENDOWMENT



# Estate Gift Will Expand Opportunities

**R**ichard Schatz, MD'77, was in California, just days away from returning to New York to begin his senior year as an undergraduate at the State University at Buffalo, when the phone rang and changed everything.

"It was Duke," says Schatz, who is now research director of cardiovascular interventions in the Heart, Lung, and Vascular

**"I pulled into Durham and stopped at a fuel station and said, 'Where is this Duke place?'" he says. "The guy says, 'Down there, make a left.'"**

RICHARD SCHATZ

Center and director of cell therapy at the Scripps Clinic in La Jolla, California. "They said, 'You're on the wait list for medical school, and a spot just opened up. You have to be here in three days.'"

Schatz, with just three years of undergraduate work, had applied "on a whim" for early admission to Duke University School of Medicine. He packed his bags and caught the first plane back to New York, threw his stuff in his car, and headed south.

"I pulled into Durham and stopped at a fuel station and said, 'Where is this Duke place?'" he says. "The guy says, 'Down there, make a left.' When I finally made it, I walked into the office and said, 'Here I am. Where's my dorm?' They said, 'This is medical school. We don't have dorms.'"

Bit by bit, he figured it out. He worked hard, received a Davison Scholarship, and made his way into the labs of mentors including cardiologist Joe Kisslo, MD,

and biomedical engineer **Olaf T. Von Ramm, PhD'73**.

That confluence of cardiology and engineering shaped his career. Schatz became a pioneer in developing cardiovascular interventions, and his seminal work on coronary stents spurred a revolution in the treatment of coronary artery disease. The modified design he patented in 1991 became the gold standard for every subsequent stent submitted for FDA approval. More than 2 million stents are placed annually

For his breakthrough work in cardiovascular care, Schatz, along with **John B. Simpson, MD'74, HS'75, PhD**, and three others, was awarded the 2019 Russ Prize, awarded by the National Academy of Engineering and Ohio University for bio-engineering achievements that significantly improve the human condition.

Schatz recently made a major estate gift to Duke to create the Richard A. Schatz, MD, Cardiovascular Research Endowment Fund and the Richard A. Schatz, MD, Student



DAVID POLLER

worldwide, relieving mortality and morbidity, improving patients' lives, and reducing health care costs.

That progress came in the face of many scientific, financial, and practical hurdles.

"There was only one way it could have worked and a hundred ways it shouldn't have worked," he says. "But we were able to navigate all that, and the stent we came up with continues to endure."

Research Endowment Fund. Those gifts continue Schatz's long history of generous support for the School of Medicine. It's all a way to give back, he says.

"I never would have achieved anything if it weren't for Duke," says Schatz. "They took a huge risk accepting me in the first place, and they prepared me to succeed. I want to help them give that opportunity to others."

**"They took a huge risk accepting me in the first place, and they prepared me to succeed. I want to help them give that opportunity to others."**

RICHARD SCHATZ



# BURSTING THE BUBBLE

A new clinical program  
gets medical students  
off campus and  
into the community

By Bernadette Gillis

Photos By Les Todd



The Holton Wellness Center is located inside a career and resource center in East Durham.

**M**aya Torain first stepped onto the Duke campus as a medical school student two years ago, but she was no stranger to Durham. As a child, the Baltimore, Maryland, native spent her summers in Durham visiting her father's family. Years later, even though she was attending medical school right in her father's hometown, she says she felt as though she were in a bubble, far removed from the town she remembered. She was eager to get out and serve the local community.

"You can go months and months without really even interacting with the Durham community," she says.

Torain, now a third-year student, isn't the only



1. Peter Callejo-Black (left) guides fellow medical student Jenna Armstrong (right) through a patient exam. 2. Students Rafeal Baker (left) and Nathaniel Neptune (right) listen as family nurse practitioner Virgil Mosu discusses a patient's diagnosis. 3. Baker and Neptune review a patient's chart before an exam. 4. Callejo-Black watches as Armstrong examines a patient. Armstrong says participating in the Holton Leadership Elective has increased her confidence in examining patients.



Duke medical student to have felt disconnected from Durham. That's what drove her and three other third-year students—Peter Callejo-Black, Nathaniel Neptune, and Deborah Oyeyemi—to work with administrators to create a Duke University School of Medicine elective course that takes students out of the hospital and into the community.

“We really just wanted to find an opportunity to meet the Durham people where they were and do some on-the-ground work,” Torain says.

As a part of the Holton Leadership Elective, third- and first-year students see patients at the Holton Wellness Center two nights a week. One of three neighborhood health clinics operated by the Department of Family Medicine and Community Health, Holton offers a medical home for many residents in East Durham. The clinic, which is within walking distance for most patients, provides services including family planning, management of chronic conditions such as diabetes and high blood pressure, and routine immunizations. Patients—many who are uninsured or underinsured—pay based on income.

Now in its second year, the course gives Duke medical students the rare opportunity to work at a community clinic in Durham. While all students perform clinical rotations during their second year, most rotations are done in the hospital or in an outpatient setting, such as an obstetrics and gynecology office. Few students have the chance to work in a community health clinic like Holton.

“I think when you practice at the hospital, you see a very specific patient population, and you don't see necessarily how they exist in the real world,” Callejo-Black says. “Holton Clinic is definitely immersed in the community.”

Every Thursday and Friday night at the Holton Wellness Center, one first-year student is paired with a third-year student, and together they interview patients alone in an exam room. The third-year student serves as



Armstrong takes time before a patient's exam to ask Callejo-Black questions about a patient's condition.

**“We really just wanted to find an opportunity to meet the Durham people where they were and do some on-the-ground work.”**

MAYA TORAIN

a mentor, guiding the first-year student as they take the patient's history. The students then report what they've learned to Virgil Mosu, FNP-C, MSN, the provider who oversees Holton. The students return to the room with Mosu to complete the exam. Mosu also is the clinical supervisor for the course.

The interaction serves as a learning opportunity for all the students, with the third-year students honing their mentorship skills—which will prove useful later in their residencies—while the first-years get to put their classroom skills into practice and build confidence interviewing patients well before their second year.

“As the weeks go on, they become more and more independent,” Oyeyemi says of the first-year students. “It goes from the third-years teaching to more supervising, and having the first-years take ownership of the interaction.”

The students also learn valuable lessons about what it is like to be part of an interdisciplinary team and gain firsthand experience working with an advanced practice provider like Mosu. A family nurse practitioner, Mosu runs the clinic alongside a physician assistant. Neptune says he has found

it helpful to see how much Mosu knows about his patients' lives outside the clinic. For example, Mosu knows whether a patient is likely to take medicine they struggle to afford or if lack of transportation might make it difficult to return for follow-up appointments. "He'll find ways to still treat them and find the best way to meet their goals," Neptune says of Mosu. "He's truly entrenched in this community."

Currently, 10 students are participating in the course—four third-year students and six first-year students. Only third-year students receive course credit. Demand for the course is higher than the course can accommodate. In the first year the course was offered, 70 first-year students applied for six available spots, and in the second year, more than 60 applied.

Ultimately, the students hope to expand the Holton course by adding more clinic nights or offering it at other community clinics so more students can participate.

At Holton, the students are allowed to spend much more time with the patients than the typical 15 minutes allotted for clinic visits, which means more time for patient education. Mosu recalls a patient with high cholesterol. The students were able to spend nearly 45 minutes with her, thoroughly answering all of her questions.

"I would have given the patient the pamphlet and talked briefly about cholesterol," Mosu explains. "The students were able to talk to the patient all the way down to the molecular level. They were able to explain all the nuances of hyperlipidemia."

Neptune adds: "Sometimes the patient is apprehensive. But then at the end, they say, 'Oh, I'm not an experiment. I'm not here getting subpar treatment. I'm actually receiving more care than I would have in a typical visit.'"

Although the course was created with students in mind, the patients weren't an afterthought, says



Neptune (right) says he's discovered that many patients welcome the additional attention medical students offer at Holton Wellness Center.



Patient Martha Lucier discusses her care with Armstrong.

**Michelle Lyn, AB'89, MBA, MHA**, chief of the Division of Community Health and a faculty advisor for the course. In organizing the course, the students considered the community's needs first. "It wasn't just about going and doing a rotation in yet another location," Lyn says, adding that the students asked themselves, "Why are we there? Why is the clinic there? What are all of the factors that patients face?"

That mindset of putting patients first has led the students to partner with other groups in the community, including the Benefits Enrollment Center, which provides assistance to elderly patients at Holton and other clinics in the area. The students also hope to start a program to help address hunger issues among the elderly in Durham.

"The students have a very healthy perspective on community engagement," says Fred Johnson, MBA, vice chief of the Division of Community Health. "They recognize that the neighborhood is going to be there after the students leave, and that they're not going to just run in and run out." ■



# SWIMMING AGAINST THE ODDS

## A Lung Transplant Survivor Gives Back

BY ALIZA INBARI

Growing up in Scotland, Gavin Maitland was intrigued by the 1979 movie *Escape from Alcatraz*, in which Clint Eastwood's character breaks out of the notorious prison and eludes capture by making his way through the dangerous waters of San Francisco Bay.

One day many years later, Maitland slipped into the same cold waters off Alcatraz and began swimming toward a very different sort of freedom. Accompanied by his son, Zander, 13, and his daughter, Riley, 11, he swam from Alcatraz to the San Francisco shore in 2013 to celebrate his escape from the lung disease that had once sentenced him to a probable early death. The choppy water did not deter him from rejoicing the fifth anniversary of the lung transplant that saved his life.

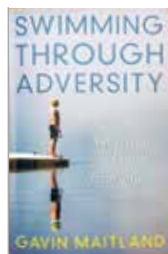
"That was a very significant milestone in my life, because the average survival rate for a lung-transplant patient is only five years," says Maitland. It has now been 11 years since his transplant.

### 'I FELT I WAS GOING TO DIE'

An athletic lifestyle has been always part of Maitland's routine. He kept himself in excellent physical shape. He enjoyed running and swimming, and he had never smoked. When he was 35, Maitland ran the New York City Marathon. After he crossed the finish line, he developed a persistent dry cough. "I thought that maybe I had a cold or a flu," he says. "I waved it away as an irritant."

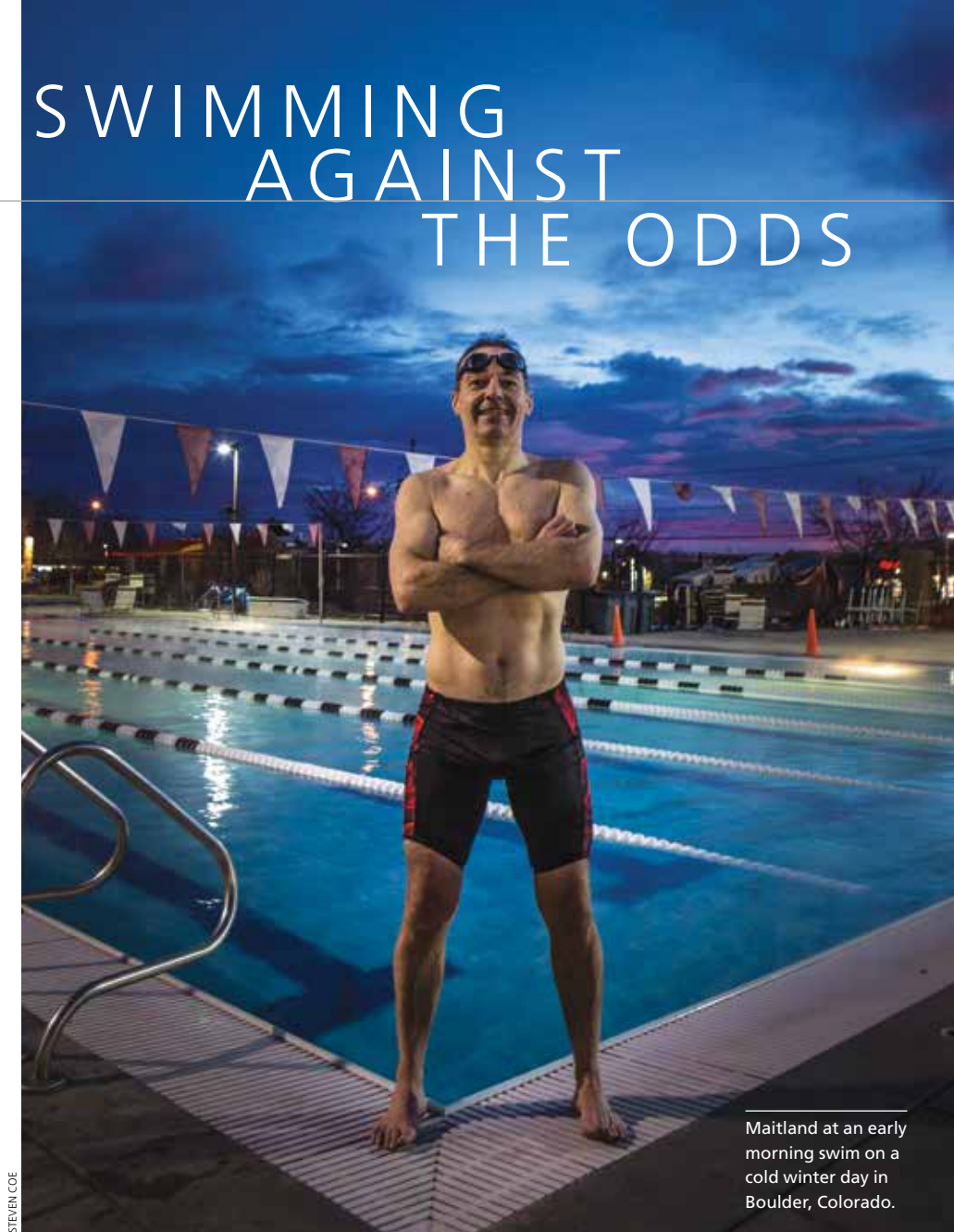
But the cough would not leave. Maitland consulted physicians in Denver, Colorado, where he lived at the time, who told him that it was probably just an ordinary cough, perhaps aggravated by asthma or allergies.

Over time, though, his symptoms grew worse. "I was coughing several hundred times a day," he says. "I could barely have a conversation



### MORE INFO

Gavin Maitland's book is available at [amazon.com](https://www.amazon.com). To learn more about Maitland's story visit [gavinswims.life](http://gavinswims.life). Proceeds from sales of the book go to lung research and organ donation awareness.



Maitland at an early morning swim on a cold winter day in Boulder, Colorado.

without coughing." He developed severe breathing difficulties. His condition kept deteriorating, to the point where he could not breathe without oxygen therapy 24 hours a day. "Everything was a huge effort for me, even things like brushing my teeth, standing, and sitting," he says. "I lost a lot of weight. I felt that I was going to die."

Maitland sought help at a local hospital, where doctors took a biopsy of his lung. He was diagnosed with a very rare lung condition called idiopathic pleuroparenchymal fibroelastosis. This is an uncommon variant of idiopathic interstitial lung disease, which causes scarring in the lungs and the lining of the lungs. The scarring

causes stiffness in the lungs and makes it increasingly difficult to breathe. At 41, Maitland was dying. His only hope was a lung transplant, but the doctors did not think he could survive the surgery.

His wife, Julie, refused to accept that assessment. One by one, she contacted 17 other hospitals in the U.S., trying to find a lung transplant center that would accept him. "They all turned me down," says Maitland.

### 'BEAUTIFUL BREATH'

In 2008, Maitland turned to Duke University Hospital, where he met with lung transplant specialist **Scott Palmer Jr., MD'93, HS'93-'96, '96-'99, MHS'00**; Mark Steele, MD, in pulmonary medicine; and cardiothoracic surgeon **R. Duane Davis, MD, HS'84-'86, '86-'88, '88-'91, '91-'92, '92-'93, MBA'08**. After a careful

**“Duke’s lung-transplant program saved my life. Without their willingness to go ahead and look at my case, I would not have survived.”**

GAVIN MAITLAND

multidisciplinary evaluation of his condition, they decided to accept him.

“Duke is one of the largest lung transplant programs in the world, with over 100 lung transplants a year,” says Palmer, professor of medicine and immunology, vice chair for research in the Department of Medicine, and director of respiratory research at Duke Clinical Research Institute. “We are experienced in operating on people that may be considered high-risk. Especially for a young man like Gavin, who would have died without a transplant, we thought that we could provide a good outcome, and he could benefit from a bilateral lung transplant.”

That was good news, but Maitland was far from out of the woods. Statistically, lung transplants have the worst outcomes of all organ transplants, and in any event no procedure could take place unless a suitable organ donor was found. Within a few weeks, a family stepped forward and donated their young son’s lungs, and Maitland put himself in the hands of the transplant team at Duke.

Moments after he woke up from the surgery, he took a big, deep breath into his new lungs. “I could immediately tell that my lungs were very good, and I could take this beautiful breath,” he says. “It was a fabulous feeling.”

Maitland is deeply grateful: to Julie, who refused to give up; to the donor family, whose generosity gave him another chance; and to Duke, which gave him a future.

“Duke’s lung-transplant program saved my life,” says Maitland. “Without their willingness to go ahead and look at my case, I would not have survived.”

#### DO WHAT YOU ENJOY DOING

Given a second chance at life, Maitland, who enjoyed competitive swimming while in high



Maitland’s children, Zander and Riley, hold signs after the Bridge-to-Bridge six-mile swim in San Francisco Bay, 2015.



Gavin Maitland in Colorado.

school and college, continues to participate in open-water swims to raise funds to support Palmer’s research on post-lung transplant. His recent adventures include the Great Chesapeake Bay Swim in Maryland; the Lady Liberty Swim in New York Harbor; and the Bridge-to-Bridge swim, a 6.2-mile course from the Golden Gate Bridge to Oakland Bay Bridge in San Francisco.

Last year, he published a book, *Swimming through Adversity: Surviving a Lung Transplant*, an inspiring account of his journey. Maitland donates proceeds from the sale of the book to Palmer’s research program and to other organizations that support lung research and increasing organ donation awareness. Thus far, he has raised over \$17,000 for lung transplant research at Duke.

“I want to encourage other people and tell them that it is possible to survive a lung transplant, live well after that, and to be able to do what you really enjoy doing,” says Maitland.

## Making a Difference for Lung Transplant Patients

Duke is internationally recognized as a leader in clinical lung transplant and lung transplant research. Investigators at Duke have advanced our understanding of lung transplant rejection and developed more effective strategies to prevent infections after lung transplantation.

**Scott Palmer Jr., MD’93, HS’93-’96, ’96-’99, MHS’00**, in collaboration with other investigators at Duke and the Duke Clinical Research Institute, leads the Clinical Trials in Organ Transplant (CTOT) study, a multi-center clinical trials program funded by a \$12.95 million National Institutes of Health grant, to better understand the clinical factors and biological mechanisms that lead to lung transplant rejection.



Palmer

“A deeper understanding of these processes through prospective multi-center research will enable us to discover therapies to decrease the risk of lung rejection and improve long-term outcomes for our patients following lung transplant,” says Palmer.

The CTOT consortium includes five lung transplant centers: Duke University Hospital, the Cleveland Clinic, Johns Hopkins University, the University of California, Los Angeles, and the University of Toronto.

#### MORE INFO

To learn more about the Duke Lung Transplant program and read other patient stories, please visit: [duke-health.org/treatments/transplant-program/lung-transplant](http://duke-health.org/treatments/transplant-program/lung-transplant)



# 2019 MEDICAL ALUMNI ASSOCIATION AWARDS



## DISTINGUISHED ALUMNUS AWARD

### Mark Humayun, MD'89, HS'90-'93

Mark Humayun is an internationally known pioneer in vision restoration who has literally allowed the blind to see. He is a retinal surgeon, engineer, scientist, and innovator whose accomplishments have been so distinguished in his field that he is the only ophthalmologist elected to both the National Academy of Medicine and the National Academy of Engineering.

Humayun, inspired to pursue his career path by his grandmother's blindness, has dedicated 30 years to developing a bioelectronic artificial retina to restore sight to the blind. His perseverance, expertise, and leadership culminated in the Argus II retina implant, the first and only artificial retina approved by the Food and Drug Administration for restoring sight. The device allows patients who are totally blind to see large objects and letters and navigate their way, and was named by *Time* magazine one of the top inventions of 2013. Argus II is also approved in Europe, Canada, the Middle East, and Asia Pacific.

Humayun continues to develop technologies aimed at

restoring color vision and higher-resolution sight to the visually impaired.

He has published more than 200 peer-reviewed publications and is among the most highly cited experts in his field, with a Google Scholar h-index of 82. He holds 114 patents and has trained more than 200 students in the area of science, technology, engineering, and mathematics as well as in the clinical care of eye diseases.

He has been the recipient of numerous awards for his extraordinary contributions to medicine, engineering, and humanity. He is a fellow of the National Academy of Inventors, and in 2015 President Barack Obama presented him with the United States' highest technological achievement award, the National Medal of Technology and Innovation.

**Education:** Georgetown University; Duke University School of Medicine; University of North Carolina at Chapel Hill

**Training:** Carilion Roanoke Memorial Hospital, Roanoke, Virginia; Duke Eye Center; Wilmer Eye Institute, The Johns Hopkins Hospital

**Current title:** Cornelius J. Pings Chair in Biomedical Sciences, Keck School of Medicine of the University of Southern California; professor of ophthalmology, biomedical engineering, and integrative anatomical sciences; director, Institute for Biomedical Therapeutics; co-director, University of Southern California Roski Eye Institute

**DISTINGUISHED  
ALUMNA  
AWARD**

## Caroline Philpott, AB'83, MD'87

Caroline Philpott is one of the most respected international leaders in the biochemistry and cell biology of iron metabolism. She has made groundbreaking discoveries in iron metabolism that deciphered the human intracellular iron trafficking mechanism. Her findings lay the foundations of cellular iron regulation that are now taught in every undergraduate textbook in modern cell biology and biochemistry and will likely have significant implications for the treatment of iron disorders in humans.

Philpott's innovative research using yeast as a host cell has identified iron transportation systems that coexist in mammalian cells. In her work over the last decade, Philpott solved one of the most vexing mysteries in the cell biology of iron by identifying the "chaperone" proteins that escort iron through the cell without damaging nearby molecules. In a brilliant series of papers, Philpott used the yeast system to identify the mammalian proteins that carry out this function and showed how the proteins

deliver iron to storage sites and several specific recipient proteins. This remarkable research opens new areas of investigation and has relevance to the diagnosis and treatment of common disorders such as anemias, iron overload syndromes, and liver disorders.

Philpott is a scientific leader at the National Institutes of Health and a dedicated and talented investigator who utilizes every approach necessary to solve the problem at hand, from yeast genetics to mouse models. She is an influential mentor and serves as a regular journal editor, reviewer, and popular lecturer at national and international scientific symposiums on iron and metal biochemistry, such as the Gordon Research Conferences, the International Biolron Society Congress, and the American Society of Hematology national meetings. She is a fellow of the American Association for the Advancement of Science, a member of the American Society for Clinical Investigation, and the recipient of numerous honors.



DEE LINDSEY

**Education:** Duke University; Duke University School of Medicine

**Training:** The Johns Hopkins Hospital; The National Institute of Child Health and Human Development

**Current title:** Chief, Genetics and Metabolism Section, Liver Diseases Branch, National Institutes of Diabetes and Digestive and Kidney Diseases at the National Institutes of Health

**DISTINGUISHED  
ALUMNUS  
AWARD**

## William Stead, AB'70, MD'74, HS'73-'77

William Stead is a pioneer in the application of communication and information technology to improve the practice of medicine. He is considered a founder of the field of biomedical informatics and a contemporary thought leader.

In the 1970s, first as a medical student and then while a nephrology fellow and member of the faculty at Duke, Stead worked with Ed Hammond, PhD, director of Duke Center for Health Informatics, and others to build The Medical Record, one of the first practical electronic medical record systems. He also contributed to the development of one of the first patient-centered hospital information systems.

Stead has devoted over three decades to improving the adoption of information systems in medicine. He began his work in informatics when there was no formal training in the field. He has helped shape the learning requirements and competencies needed in

graduate informatics programs.

Stead joined Vanderbilt University in 1991, where for two decades he guided development of the Department of Biomedical Informatics, one of the top informatics departments in the country. Under his leadership, the department was strategically associated with operational units providing information infrastructure to support health care, education, and research.

A member of the National Academy of Medicine and chair of the National Committee on Vital and Health Statistics, he served as the chair of the National Library of Medicine's Board of Regents and was honored by the American College of Medical Informatics with its lifetime achievement award, the Morris Collen Medal, in 2007. He was a leader in the merger of three organizations to create the American Medical Informatics Association. In 2013, the association created the William W. Stead Award for Thought Leadership in Informatics, and honored Stead as the inaugural recipient.

**Education:** Duke University; Duke University School of Medicine

**Training:** Duke Medical Center

**Current title:** Chief strategy officer, Vanderbilt University Medical Center; McKesson Foundation Professor of Biomedical Informatics; professor of medicine



VANDERBILT UNIVERSITY / DANIEL DUBOIS





LAUREN MCCRARY

## HONORARY ALUMNUS AWARD

### E. Arthur Palumbo, AB'49

Arthur Palumbo is among the most dedicated friends of Duke University School of Medicine and the Department of Pediatrics. His philanthropic support for the school's students and faculty has touched the lives of thousands of patients.

Palumbo, 91, was born and raised in New Jersey and came to Duke as an undergraduate to follow in the footsteps of his older brother, **Leonard Palumbo Jr., AB'42, MD'44, HS'44-50**. After graduation, Palumbo spent a few years in the military and then moved to Chicago. He had a successful career in the residential construction industry and retired about 25 years ago.

Palumbo's generosity has provided 11 full-tuition scholarships to four-year medical students. In addition, in 1999 he established the Leonard Palumbo Jr., MD, Faculty Achievement Award, one of the most prestigious honors at the School of Medicine. This permanent endowment provides annual awards to faculty members who best exemplify the qualities of compassionate

patient care and dedication to teaching and mentoring young physicians that were embodied by his late brother, Leonard, who served as a member of the Duke obstetrics and gynecology faculty from 1950-1952.

Palumbo has a true love of children and a desire to help pediatric patients and their families. In his estate plan, he has made an extraordinarily generous commitment to the Department of Pediatrics that will foster the department's missions of patient care, research, and education.

When his neighbor lost two children from Batten disease, an inherited disorder of the nervous system that begins in childhood, Palumbo supported the launch of a new clinical and research program on the disease.

As gracious as he is generous, Palumbo says he has received far more than he has given. In recognition of his generosity and loyal support, the School of Medicine has inducted Palumbo into the Pinnacle Society, which recognizes donors whose giving exceeds \$1 million and presents an honorary alumni award from the Medical Alumni Association.

**Education:** Duke University

**Current Title:** Philanthropist and Pinnacle Society member, Duke University



KEN HUTH

## DISTINGUISHED FACULTY AWARD

### Michael Freemark, MD'76

Michael Freemark is an internationally known pediatric endocrinologist who has made seminal discoveries in fields including obesity and childhood malnutrition, pediatric diabetes, intermediary metabolism, and the control of fetal growth. His basic science work has focused on the regulation of metabolism during pregnancy and its effects on fetal development. In clinical research, he has played a leading role in the field of pediatric nutrition. He and his colleagues were the first to demonstrate the benefits of pharmacotherapy in children with pre-type 2 diabetes, and the first to use insulin pumps in infants and toddlers with type 1 diabetes. Freemark has explored the control of appetite, weight gain, and insulin sensitivity in children with non-syndromic obesity and Prader Willi syndrome. He co-authored the Endocrine Society's guidelines for evaluation and management of obese adolescents and children, and he has published a comprehensive textbook on pediatric obesity.

In landmark studies of Ugandan children, Freemark and his colleagues were the first to use metabolic profiling to analyze the hormonal and metabolic pathogenesis of severe acute malnutrition. In these studies he identified novel biomarkers that predict mortality

in malnourished children. Assays for these biomarkers are the focus of grants from the Duke Global Health Institute, the European Commission, and the Humanitarian Innovation Fund (Save the Children), and involve collaboration with the transnational aid agency Action Contre La Faim (Action Against Hunger).

For 28 years, Freemark has served as chief of the Division of Pediatric Endocrinology and Diabetes at Duke. He has trained numerous medical students, pediatric residents, endocrine fellows, and junior faculty members. His former trainees have made major contributions in their fields. In recognition of his educational efforts, he received Duke's Golden Apple Award and the Faculty Mentor and Michael M. Frank Research Awards from Duke's Department of Pediatrics. As a clinician, he has been recognized by US News/Castle Connolly's America's Top Doctors and Best Doctors in America for 19 years running, since the inception of the programs.

**Education:** Brandeis University; Duke University School of Medicine

**Training:** Duke University Medical Center; Lineberger Cancer Center, University of North Carolina; Laboratory of Molecular Endocrinology at the Institute Necker, Paris.

**Current Title:** Robert C. Atkins, MD, and Veronica Atkins Professor of Pediatrics, Duke University School of Medicine; chief, Division of Pediatric Endocrinology; affiliate, Duke Global Health Institute; member of Sarah W. Stedman Nutrition and Metabolism Center and the Duke Molecular Physiology Institute.

**DISTINGUISHED  
FACULTY  
AWARD**

## Donald McDonnell, PhD

It's not particularly unusual for biomedical scientists to move from academia into the pharmaceutical industry. Donald McDonnell took the opposite route: before joining the faculty at Duke University School of Medicine, he worked for a number of years for the biopharmaceutical company Ligand Pharmaceuticals in California. This early exposure to pharma and drug development played a major role in his highly successful academic career.

McDonnell is a leader in the field of nuclear hormone receptors and a leading innovator in drug discovery. His laboratory is at the forefront in the development of strategies to improve the effectiveness of existing and emerging endocrine therapies to treat and prevent breast cancer recurrence in women whose breast cancer is ER-positive (estrogen receptor-alpha), the most common type of breast cancer. He developed the now-universally recognized model of ER pharmacology, which led to new ER therapies for breast cancer, and he developed a new class of drug that binds to and denatures estrogen receptors, which has shown considerable efficacy in patients with endocrine therapy-resistant disease. He has

also defined biochemical links between obesity, elevated cholesterol, and increased risk of breast cancer and therapy failure in breast cancer patients.

In addition to his groundbreaking research, McDonnell is an influential mentor and educator and also plays an important administrative role at Duke Cancer Institute and as chair of the Department of Pharmacology and Cancer Biology.

A member of the National Academy of Medicine and one of the most highly cited scientists in molecular endocrinology, McDonnell has been honored with numerous awards for his work, including the Robert R. Ruffalo Career Achievement Award and numerous honors from the Endocrine Society. He is a Komen Scholar and recently was awarded the Breast Cancer Research Program Innovator Award by the United States Department of Defense Office of Congressionally Directed Medical Research Programs.



SHAWN ROCCO

**Education:** National University of Ireland, Galway; Baylor College of Medicine

**Current Title:** Professor of pharmacology and cancer biology, Duke University School of Medicine; chair, Department of Pharmacology and Cancer Biology; Glaxo-Wellcome Professor of Molecular Cancer Biology; professor of medicine; core faculty in Innovation and Entrepreneurship Initiative; member of Duke Cancer Institute

**LIFETIME  
ACHIEVEMENT  
AWARD**

## Brigid L.M. Hogan, PhD, FRS

Brigid L.M. Hogan is a pioneer and leader in the field of developmental biology. In the 1980s, she was one of the first to isolate *Hox* genes in mammals and to propose that they control tissue patterning in embryos across evolution.

Hogan applied modern advances in genetics and molecular biology to address a wide range of basic questions at the forefront of mammalian embryology and developmental biology, and more recently to attack clinical problems in airway disease and regeneration.

She has trained a generation of scientists in the application of these molecular techniques, and today almost every study that involves mouse genetics—cancer, neurobiology, or disease modeling—starts with manipulating the mouse embryo.

In the late 1980s her work moved in the direction of stem cell research. She discovered the role of growth factors known as bone morphogenetic proteins in the

specification of germ cells, and developed a way of deriving a stem cell population from embryonic germ cells.

Hogan is particularly interested in stem cells that play an essential role in the development of the lung and its repair after injury and believes that the signaling pathways and genetic programs required for the growth, development, and regeneration of the lung will translate into new approaches to clinical problems.

Hogan is a recipient of numerous honors and awards. She is a member of both the National Academy of Sciences and the National Academy of Medicine and a Fellow of the American Academy of Arts and Sciences and of the Royal Society of London. She was selected as the scientific co-chair and principal author of a National Institutes of Health report on human embryo research. She was also a member of the National Academy of Sciences Advisory Panel on Scientific and Medical Aspects of Human Reproductive Cloning, and later served on the Human Embryonic Stem Cell Advisory Committee.



**Education:** The University of Cambridge, UK

**Training:** Massachusetts Institute of Technology

**Current title:** Professor in the Department of Cell Biology; and professor in pediatrics, Duke University School of Medicine



## PEOPLE



Geeta Swamy



A. Eugene Washington



Scott Soderling



Joseph Heitman

### SWAMY NAMED VICE DEAN FOR SCIENTIFIC INTEGRITY

Geeta Swamy, MD, is the new vice dean and associate vice provost for scientific integrity for Duke University and the School of Medicine.

Swamy previously served as senior associate dean for regulatory oversight and research initiatives in clinical research for the School of Medicine. She is an associate professor of obstetrics and gynecology and a member of the Duke Human Vaccine Institute, and she specializes in perinatal infection and maternal immunization.

As vice dean and associate vice provost for scientific integrity, Swamy works with leaders across campus to provide a consistent university vision for scientific integrity standards and expectations and drives efforts to ensure the advancement of scientific integrity across Duke University and the School of Medicine. Swamy leads the Office of Scientific Integrity.

### LEE HEADS PULMONARY DIVISION

Patty J. Lee, MD, assumed the role of chief of the Division of Pulmonary, Allergy, and Critical Care Medicine on April 1.

Lee comes to Duke from Yale University School of Medicine, where she was professor of internal medicine and director of pulmonary research in the Section of Pulmonary, Critical Care, and Sleep Medicine. She is an internationally recognized physician-scientist who studies mechanisms of lung injury and repair, and she has developed genetic and gene-editing approach-

es in the lung to study critical molecular pathways involved in how lungs respond to and protect themselves against injury.

Lee has an extensive portfolio of National Institutes of Health grants supporting her laboratory and is a member of the American Society for Clinical Investigation.

### WASHINGTON RECEIVES UCSF MEDAL

A. Eugene Washington, MD, chancellor for health affairs and president and chief executive officer for Duke University Health System, received the prestigious University of California San Francisco (UCSF) Medal in a ceremony in California.

Granted in lieu of honorary degrees, the UCSF Medal is the institution's highest honor. The medal is awarded to individuals who have attained preeminence in fields associated with the university and its missions: education, research, health care, and local and global community service.

Washington, an internationally renowned clinical investigator, health policy scholar, and executive-level leader, was honored for his dedication to improving health care. He has been a national leader in assessing medical technologies, developing clinical practice guidelines, and establishing disease prevention policies, particularly for women's health. He has published extensively in his major areas of research, which include prenatal genetic testing, cervical cancer screening and prevention, noncancerous uterine conditions management, reproductive tract infections, quality of health care,

and racial/ethnic disparities in health outcomes.

### FOUR SOM FACULTY NAMED AAAS FELLOWS

Four faculty members from Duke University School of Medicine have been named Fellows of the American Association for the Advancement of Science (AAAS).

They are:

- Micah A. Luftig, PhD, associate professor of molecular genetics and microbiology and medicine. He was elected for his contributions to the field of viral oncology for his work on the Epstein-Barr virus.
- William J. Steinbach, MD, HS'01-'04, professor of pediatrics and chief of the division of pediatric infectious diseases. He was elected for his contributions to the field of fungal molecular pathogenesis and invasive fungal infection epidemiology, diagnosis, and management.
- Georgia D. Tomaras, PhD, professor in surgery and molecular genetics and microbiology, and director of research in the Duke Human Vaccine Institute. She was elected for contributions to the field of microbiology and immunology.
- Gregory A. Wray, PhD'87, professor of biology and director of the Center for Genomic and Computational Biology. He was recognized for his contributions to the evolution and mechanisms of development.

### SODERLING IS NEW CHAIR OF CELL BIOLOGY

Scott Soderling, PhD, was named the chair of the Department of Cell Biology in March 2019. He had served as interim chair since December 2018. He succeeds Brigid Hogan, PhD, who served as chair of the department for 16 years.

Soderling is a professor of cell biology and neurobiology and serves as director of the Transgenic Mouse Facility. He previously served as vice chair and director of graduate studies for the Department of Cell Biology.

Soderling received his doctorate at the University of Washington and did his postdoctoral work at the Vollum Institute in Portland, Oregon. He was recruited to Duke University in 2005. His laboratory uses a suite of novel genome editing, proteomic, optogenetic, and animal behavioral approaches to understand how abnormalities of synapses lead to cellular deficits driving behavioral abnormalities associated with disorders such as autism, schizophrenia, and intellectual disability.

### PAGE TO LEAD BIOSTATISTICS AND BIOINFORMATICS

C. David Page, PhD, has been named the new chair of the Department of Biostatistics & Bioinformatics, effective June 15, 2019. He is currently a Kellett and Vilas Distinguished Achievement Professor in the Department of Biostatistics and Medical Informatics at the University of Wisconsin-Madison's School



Nicholas Heaton



Sally Kornbluth



Bruce Sullenger



Heather Whitson



Susanna Naggie

of Medicine and Public Health.

At UW-Madison, Page also teaches machine learning and supervises PhD students in the Department of Computer Sciences. He directs the Informatics Core of the Carbone Cancer Center. He has served on scientific advisory or leadership committees for the Observational Medical Outcomes Partnership focused on methodologies to identify adverse drug events, the International Warfarin Pharmacogenetics Consortium, the Wisconsin Genomics Initiative, the Carbone Cancer Center, and UW-Madison's Institute for Clinical and Translational Science.

## TWO SCHOOL OF MEDICINE ALUMNI SHARE RUSS PRIZE

Two pioneering Duke University School of Medicine alumni who helped revolutionize the treatment of cardiovascular disease are among the five scientists named winners of the prestigious 2019 Fritz J. and Dolores H. Russ Prize.

The National Academy of Engineering and Ohio University announced the Russ Prize would go to **Richard A. Schatz, MD'77**, and **John B. Simpson, MD'74, HS'75, PhD**, along with Julio Palmaz, MD; Leonard Pinchuk, PhD; and Paul Yock, MD, for innovations leading to the widespread adoption of percutaneous coronary intervention. Percutaneous coronary intervention uses a catheter to place a small metal device called a stent to open up blood vessels in the heart that have been narrowed by plaque buildup.

The \$500,000 biennial prize, which recognizes a bioengineering achievement that significantly im-

proves the human condition, cites the awardees for their "seminal contributions to coronary angioplasty, enabling minimally invasive treatment of advanced coronary artery disease."

## HEITMAN, HEATON HONORED BY ASM

Two Duke University School of Medicine faculty have received awards from the American Society for Microbiology (ASM).

Joseph Heitman, MD, PhD, James B. Duke Professor of Molecular Genetics and Microbiology and chair of the Department of Molecular Genetics and Microbiology, received the ASM Award for Basic Research, recognizing an outstanding scientist whose discoveries have been fundamental to advancing our understanding of the microbial world.

Nicholas Heaton, PhD, assistant professor of molecular genetics and microbiology, was named the winner of the ASM Award for Early Career Basic Research, which recognizes an early career investigator with distinguished basic research achievements in the microbial sciences.

## KORNBLUTH, SULLENGER NAMED NAI FELLOWS

Duke University Provost Sally Kornbluth and Bruce Sullenger, PhD, were elected Fellows of the National Academy of Inventors (NAI) class of 2018. They are among 148 new fellows this year and join 11 other Duke faculty who have been so recognized by the seven-year-old organization.

Kornbluth is the Jo Rae Wright University Professor of Biology. Sullenger is the Joseph W. and Dorothy W. Beard Professor of Experimental Surgery and associate director of Duke Innovation & Entrepreneurship.

There are now 1,000 NAI Fellows, representing more than 250 research universities and government and non-profit research institutes. Collectively, they hold more than 35,000 issued U.S. patents.

## WHITSON TO DIRECT CENTER FOR THE STUDY OF AGING AND HUMAN DEVELOPMENT

**Heather Whitson, MD, MHS'09, HS'01-'04, HS'06**, will succeed **Harvey Cohen, MD, HS'65-'67, HS'69-'71**, as director of the Duke Center for the Study of Aging and Human Development on June 30. Last December, Cohen announced his plans to step down after 36 years as director.

Whitson, currently deputy director of the center, is an internist, geriatrician, and clinical investigator. She is an associate professor with tenure in the Departments of Medicine and Ophthalmology. She is a research physician in the Durham VA's Geriatrics Research Education and Clinical Center. Her research agenda seeks to improve health and resilience for older adults with multiple chronic conditions, with a special focus on the interface of sensory and cognitive health.

During his tenure, Cohen, the Walter Kempner Professor of Medicine and chair emeritus of the Department of Medicine,

founded and led the Geriatric Research, Education, and Clinical Center at the Durham VA and the Geriatrics Division at Duke. The Duke Center for the Study of Aging and Human Development has been consistently rated among the top five academic programs in aging nationally.

## NAGGIE NAMED ASSOCIATE DEAN FOR CLINICAL RESEARCH INITIATIVES AND REGULATORY AFFAIRS

Susanna Naggie, MD, associate professor of medicine and member of the Duke Clinical Research Institute (DCRI), has been named associate dean for clinical research initiatives and regulatory affairs for the School of Medicine.

In this role, Naggie will provide strategic vision as well as oversight of the Clinical Research Units (CRUs), Office of Regulatory Affairs and Quality, Institutional Review Board (IRB), and Duke Health Data & Specimen Repository. She will also oversee clinical recruitment efforts and guide the development of broad-based research initiatives and other activities to support the school's growing clinical research enterprise.

Naggie serves as director of infectious diseases research for the DCRI. She has served as the medical director of the Department of Medicine's Clinical Research Unit since 2017. Naggie has dedicated her academic career to the care of patients with HIV and viral hepatitis.





A bush plane deposits Taylor and Slinger in the remote Gates of the Arctic National Park and Preserve.



Taylor, left, and Slinger, paddle along the Noatak River.



WATCH THE VIDEO:

*Noatak: Return to the Arctic*  
[bit.ly/2BASrcK](https://bit.ly/2BASrcK)

Right, Taylor hiking in the Brooks Range with the Noatak River behind him.







# LIGHTS CAMERA ARCTIC

PHOTOGRAPHS BY THE MUIR PROJECT

**F**or Andrew “Tip” Taylor, MD’68, the proverbial fountain of youth isn’t a fountain at all, but a river. Actually, lots of rivers.

For more than 40 years, Taylor—a renowned nuclear medicine physician and ambitious outdoor adventurer—and his friend Jim Slinger have connected for a yearly 3-to-4-week canoe and backpacking trip in northern



## ALUMNI SPOTLIGHT

Alaska and Canada. It's not a casual undertaking: a bush plane deposits them in the remote wilderness, and until it returns to fetch them weeks later, they're on their own in the wild, making their way through grizzly bear country.

With both men well into their 70s, and their strenuous excursions not for the faint of heart, the duo caught the attention of The Muir Project, which makes films that "seek to inspire others to share in the beauty that is our world."

A three-person film crew joined Taylor and Slinger on their 2015 trip to the Noatak River in the Arctic National Park. The result was an award-winning short film, *Noatak: Return to the Arctic*. Taylor and Slinger had taken the same trip 35 years earlier.

The film espouses the beauty and healing power of raw wilderness and the uplifting spirit of enduring friendship. It was selected as a Banff Film Festival finalist and by National Geographic in 2018 for its Short Film Showcase. It is featured on its YouTube channel at [bit.ly/2BASrck](http://bit.ly/2BASrck).



"It was certainly fun," Taylor says of being in a documentary film. "It was interesting, because I had no experience on how a film is made. Nothing was scripted. They'd just ask us questions."

He also wasn't aware that he and his friend would inspire legions of viewers. Comments posted on YouTube about the film express admiration for the pair's youthful zest for life, including:

- Continuing to make life an adventure at that age.... is an act to inspire.
- As a 20-year-old, I'm excited to start my life's adventures.
- I could watch them for hours and listen to their stories.

Taylor's other recreational pursuits vary from the not-so-dangerous to the borderline insane.



Taylor kayaking in Alexandra Fiord off Ellesmere Island, Nunavut Territory, Canada, at 3 am.



An Arctic wolf surveys the scene in Canada's Northwest Territory.



PHOTOS COURTESY OF ANDREW TAYLOR

Taylor overlooking a glacier on Ellesmere Island.

At age 62, he hiked up and skied down Russia's Mt. Elbrus—the highest mountain in Europe.

"Not a wise decision," he says, "But the three of us got away with it!"

He has spent time at Mt. Everest's advanced base camp—but only after promising his wife, Naomi Alazraki, MD, that he would not attempt to summit the famed 29,000-foot peak, which has claimed the lives of nearly 300 climbers. He did climb an adjacent mountain, the 23,000-foot Lhapki Ri. He once broke his neck skiing (no permanent damage) and has had thrilling excursions in the Alps, Bolivia, Ecuador, Tanzania, Nepal, Pakistan, Bhutan, and Antarctica.

"Being in places like this, it's a chance to reflect and decide what's important in life," Taylor says in the film. "And just enjoy the incredible beauty."

One aspect of Taylor's life that the film doesn't touch on is that he is a pioneer in nuclear medicine, having been involved in the basic research and clinical introduction of what is still the most widely used nuclear medicine renal tracer in the U.S.

His Duke mentor was **Oliver W. Jones, MD, HS'57-'61**. Taylor spent one of his medical school years doing research with Jones. When Jones was later recruited to the University of California-San Diego (UCSD), he convinced Taylor to go to UCSD for internship and residency.

But not before Taylor spent three months as the only physician in an isolated native village in Nicaragua, followed by a fellowship in tropical medicine at the Gorgas Institute in Panama City, Panama. He spent two years at the Centers for Disease Control and Prevention in Atlanta, Georgia; was director of nuclear medicine at the University of Utah; and with his wife, was co-director of nuclear medicine at Emory University. Taylor still has a research lab at Emory, where he works half time as professor of radiology and imaging sciences.

What's next for him is much of what has propelled him throughout his life—an intoxicating appetite for being in wild places—although scaled down a bit. This year, instead of a multi-week canoe trip, he and Slinger will take a week-long backpacking trip. In September he'll join a group trekking trip in China, and in December he plans to join a group in New Zealand.

"I have so many things I want to do, it would take a whole lifetime to do them," Taylor says in the film. "And then that probably wouldn't be long enough."

— By Jim Rogalski

**"Being in places like this, it's a chance to reflect and decide what's important in life. And just enjoy the incredible beauty."**

ANDREW TAYLOR

## 1950s

**Lawrence M. Blum, MD'55**, received a Lifetime Achievement Award in 2016 for 44 years of practice and being co-chief of dermatology at Park City Hospital in Bridgeport, Connecticut, for 10 years. He and his wife, Florence, have been married for 52 years and have two sons and one daughter. They live in Shelton, Connecticut.

**Harold Wilkinson, MD'59, PhD'62, HS'61-'62**, established the annual Ed Wilkinson Memorial Lecture in honor of his son Ed, who died from a brain injury nearly 17 years ago. The inaugural lecture was held June 26, 2018, at the Wellesley Free Library in Wellesley, Massachusetts, and featured Arthur E. Dell Orto, PhD, CRC. Wilkinson is a longstanding member of the Brain Injury Association of Massachusetts Board of Directors. He lives in Wellesley.

## 1960s

**Robert F. Corwin, MD'61**, is a retired urologist. He is currently working on his third book after having published two novels of historic fiction focused on Nazi activity in the U.S. after World War II: *The Volsung Project* and its sequel, *No Loose Ends*. Both books are available on [amazon.com](https://www.amazon.com) and at Barnes & Noble, and information is available at his website, [bobcorwinbooks.com](https://www.bobcorwinbooks.com). He and his wife, Sandy, live in Waco, Texas, and enjoy spending time with their children (two daughters and one son) and grandchildren.

**Paul W. Jones, MD'63**, is a retired neurologist and was the recipient of the Duke Medical Alumni Association Humanitarian Award in 2015. He is presently working with a campus ministry and international students at the University of Oregon. He and his wife, Janice, recently celebrated their 60th wedding anniversary with all of their family of 30 at Sunriver Resort in Oregon. They live in Eugene, Oregon.

**Peter Ogden Kohler, MD'63, HS'63-'64**, is retired as vice chancellor at the University of Arkansas for Medical Sciences (UAMS), Northwest Regional Campus. He is a distinguished professor at UAMS and president emeritus at Oregon Health & Science University (OHSU). He recently started a new pharmaceutical company to try to

help alleviate shortages of generic drugs. To learn more, visit [ourpharma.net](https://ourpharma.net). He and his wife, Judy, live in Fayetteville, Arkansas, and welcomed their second great-granddaughter, Charlotte, one year ago.

**James W. Holsinger, MD'64**, a former nominee for Surgeon General of the United States, retired from the University of Kentucky in 2017. He held the Charles T. Wethington Jr. Endowed Chair in the Health Sciences there.

**Creighton B. Wright, AB'61, MD'65, HS'65-'66**, was awarded the Legacy Leadership Award by the Great Rivers Affiliate (GRA) of The American Heart Association. He is a past GRA president and longtime member of the board. He lives in Covington, Kentucky.

**Frank Kern, MD'68**, still practices dermatology, but has decreased his hours to 1.5 days per week and says he is "seriously" considering full retirement. He continues to teach at the University of Pennsylvania as well. He and his wife, Sarah, recently celebrated their 51st wedding anniversary, and are considering relocating from Brigantine, New Jersey, to Washington to be closer to their grandchildren. They have two sons, one in Philadelphia and the other in Washington, D.C.

**Roger J. Porter, MD'68**, is a consultant to academia and the pharmaceutical industry, primarily in the development of anti-seizure drugs. He is an adjunct professor of neurology at the University of Pennsylvania and adjunct professor of pharmacology at the Uniformed Services University of the Health Sciences. He spent 20 years at the National Institutes of Health, in leadership positions including chief of the Epilepsy Branch, chief of the Medical Neurology Branch, and deputy director of the National Institute of Neurological Disorders and Stroke. He was the recipient of the Duke Medical Alumni Association Distinguished Alumnus Award in 1991.

**Terence N. Reisman, MD'68, HS'69-'70**, practiced gastroenterology from 1975 to 2012. He is a preceptor for the internal medicine residency program at Tallahassee Memorial Hospital/Florida State University. He and his wife, Marilyn, have two sons who graduated from Duke—**Robert, AB'98**, and **Matthew, AB'00**—and one





## SAMAD CONTINUES A 'PERSISTENT PURSUIT OF EXCELLENCE' IN NEW ROLE

**Zainab Samad, MD, HS'02-'09, MHS'08**, is happy to be back home working in her dream job as the first chairwoman of the Department of Medicine at Aga Khan University in Pakistan, her alma mater. But even from half a world away, she has made a point to stay closely connected to Duke University School of Medicine.

Samad, along with Aysha Almas, MD, an associate professor of medicine at Aga Khan University, and **Gerald Bloomfield, MD, HS'07-'11**, an associate professor of medicine and assistant research professor of global health in the Duke Global Health Institute, were recently awarded a National Institutes of Health (NIH) grant that establishes a formal collaboration between researchers at Aga Khan University and Duke University.

The NIH Fogarty International Center grant provides funding to plan for developing a research training pathway that focuses on understanding and curbing non-communicable disease in low- to middle-income countries such as Pakistan.

Non-communicable diseases such as ischemic heart disease, cancer, hypertension, and diabetes represent an unprecedented global crisis and are now responsible for 70 percent of all deaths worldwide, Samad says. They are also one of the biggest economic threats to low-income countries, stalling development because many families must pay for treatment rather than invest in education and nutrition for their children.

For Samad, the collaborative grant presents an opportunity to help address that challenge. It also links the two institutions that have been most important in shaping her career.

She grew up in northern Pakistan, in a conservative Pashtun culture in which young girls traditionally were not allowed to attend school. Samad's parents, however, both physicians, were determined that she would be educated. Samad attended St. Joseph's Convent School and College in Karachi, and then enrolled in medical school at Aga Khan University, an independent global research university with its primary campus in Pakistan. In 2000, Samad graduated with honors among the top of her class.

From there, she made her way to Duke, where she completed her residency in internal medicine and fellowships in cardiology and cardiovascular imaging. Upon finishing her training, she joined the Duke faculty in the Department of Medicine with a commitment to patient care, research, and education. She took on several

leadership roles and received numerous teaching awards.

Last year, after 16 years at Duke, she was recruited back to Aga Khan as the first woman to chair the Department of Medicine. She took office there in July 2018.

Together with Provost of Aga Khan University Carl Amrhein, PhD, Samad is working to ensure that data resources are available and can be used most effectively in research through a university-wide Data Science Initiative. Samad also leads a departmental Women in Medicine Initiative, a program meant to support and mentor female trainees and faculty in medicine.

"In many countries still, the potential of an entire gender is still untapped," says Samad. "I'd like to be able to take research and education to the next level through gender-inclusive capacity-building efforts with an eye towards engaging women."

Samad spends a lot of her time providing guidance and mentoring to faculty and students. She also continues to teach, conduct research, and provide clinical care.

"Although the administrative tasks are many, I felt that given the few female cardiologists in the country, I needed to be able to provide that clinical access," says Samad.

Samad says her experiences at Duke were tremendously helpful in preparing for her new

role as chairwoman. She is grateful for the guidance and support she received at the School of Medicine, and her efforts in Pakistan through the platform of the Aga Khan University, she says, are a way to pay it forward.

"All my mentors taught me the persistent pursuit of excellence," says Samad. "I hope to emulate their efforts in all that I do and hopefully transfer that to the trainees here. Every interaction I have had at Duke with the faculty, trainees, and my patients has helped me. They filled my cup!"

— By Lindsay Key

**"I'd like to be able to take research and education to the next level through gender inclusive capacity-building efforts with an eye towards engaging women."**

ZAINAB SAMAD

daughter, Amy. His daughter-in-law, **Kathy Tran Reisman, AB'00**, was elected to the Virginia House of Delegates in 2017. She was the first Vietnamese woman elected to the Virginia House.

**Geoffrey Sherwood, MD'68**, retired as chief of hematology and oncology at the Brigham and Women's Faulkner Hospital in 2014. He was chief of hematology for 34 years. He and his wife, Dorothea, have been blessed with two grandchildren, most recently a baby girl who is now six months old. They live in Waban, Massachusetts, and travel to Brooklyn, New York, twice a month for the joy of helping with childcare.

1970s



**Mark Tager, MD'74**, has published his 10th nonfiction book, *Cash-Pay Healthcare: How to Start, Grow & Perfect Your Business*. Tager's co-author is medical marketing leader Stewart Gandolf, MBA. The book is available on [amazon.com](https://www.amazon.com).



**Thom A. Mayer, MD'77**, was honored with the James D. Mills Outstanding Contribution to Emergency Medicine Award by the American College of Emergency Physicians (ACEP). It is one of ACEP's highest honors and is presented to an active, life, or honorary member for "significant contributions to emergency medicine." Mayer has served as the medical director for the National Football League Player's Association since 2001 and in 2017 was named one of the NFL's 100 most important people by *USA Today*. He is a renowned speaker in emergency medicine. Mayer is an honorary member of Duke Health Board of Visitors. He lives in Great Falls, Virginia.



**Kurt D. Newman, MD'78**, the president and CEO of Children's National Health System, was elected chair of the Children's Hospital Association Board of Trustees. As the leader of a health system serving children from Washington, D.C., Maryland, Virginia and beyond, Newman's deep experience with health policy and health care delivery will help guide the nation's children's hospitals as they work to improve quality and health outcomes for children, and influence federal and state policy to better support their overall health. He and his wife, Allison, live in Bethesda, Maryland.

**Matthew B. Stern, MD'78**, is the Parker Family Professor Emeritus of Neurology at the Perelman School of Medicine at the University of Pennsylvania and director emeritus of the Parkinson's Disease and Movement Disorders Center. He and his wife, Janet, have three children: Margot, who works in marketing and brand management; **Jeffrey, AB'07**, a writer and journalist and co-author of *The 15:17 to Paris*, which was recently made into a movie by Clint Eastwood; and Jenna, who is in real estate development. They also have one granddaughter, Lila.

1980s

**Michael H. Rotberg, MD'80, HS'81-'84**, recently published the book *Practice: Becoming a Better Doctor, Patient, and Person*. It shares lessons learned on both sides of the medical encounter during his decades as an eye surgeon and his years as a cancer patient. Retired from private practice, he volunteers at an indigent eye clinic and lives in Charlotte, North Carolina.

**Eric B. Bass, AB'78, MD'83**, is a professor and vice chair for faculty development and promotions in the Johns Hopkins University Department of Medicine. He also serves as chief executive officer of the Society of General Internal Medicine. His wife, **Katie, AB'79, MD'83**, is a partner in the Fertility Center of Maryland. She is a

member of the Canticle Singers, Baltimore's premier women's chorus.

**Harry J. D'Agostino Jr., MD'83**, is a cardiothoracic surgeon. After 20 years in academia, he made the move into private practice, and he says he loves it. He and his wife, Carman, moved to Massillon, Ohio, from Florida and are "surprisingly" enjoying the winters. Carmen is heavily involved in charity work. Their son, Harry, is attending Hampden-Sydney College in Virginia, and their daughter, Catherine, is a sophomore in high school.

**Patrick A. Treseler, MD'85, PhD'85**, is the director of the Division of Hematopathology at the University of California, San Francisco, Medical Center. He received the "Outstanding Lecture Series" Teaching Award presented by the UCSF School of Medicine Classes of 2016 and 2017 for his lecture series on the pathology of leukemias and lymphomas. His wife, **Catherine, MD'85, HS'85-'86**, recently retired from practice as an internist and infectious disease specialist, including a stint as chief of infectious diseases at Kaiser Permanente Medical Center in San Rafael, California. In 2016, he climbed to the top of Mt. Fuji in Japan with his son, Benjamin, who spent four years in the United States Marine Corps, rising to the rank of captain. His daughter, Sarah, is a case editor at a law firm. The couple lives in Nicasio, California.

**Kimberly Landay Kader, MD'88, HS'89**, recently celebrated her 10th year with MidAtlantic Permanente Group practicing diagnostic radiology with an emphasis on breast imaging and intervention. Her son Michael recently began a neurosurgical residency at the University of Miami. Kader lives in Bethesda, Maryland.

**Rache Simmons, BS'84, MD'88**, is a nationally and internationally renowned breast cancer surgeon at NewYork-Presbyterian/Weill Cornell Medical Center, recognized for her innovations and contributions in the field of minimally invasive breast cancer surgery. She also serves as assistant dean for faculty diversity at Weill Cornell Medical College. She is pursuing master's degrees in business administration and health care leadership from the Johnson School of Business at Cornell University. She and her husband, John DeCorato, MD, have a 12-year-old son, Marcus.

1990s

**Timothy P. Lahey, MD'98**, has taken a position at the University of Vermont Medical Center to lead the ethics program, teach, and see HIV and infectious disease patients. He previously was at Dartmouth College for 13 years. His wife, Jessica, authored the *New York Times* bestselling book *Gift of Failure*, about parenting. The Laheys live in Charlotte, Vermont.

**Lillian F. Lien, MD'98, HS'99**, has been division chief of endocrinology at the University of Mississippi Medical Center in Jackson. She runs the diabetes and endocrine services and teaches. She lives in Ridgeland, Mississippi.

2000s

**Michael Barfield, MD'08, HS'15-'16**, is associate site director of vascular surgery at Manhattan Veterans Affairs Medical Center and assistant professor of surgery at New York University Langone Health. He and his wife, Erika, had their first child, Elizabeth, in December 2018.

**Michael Rhodes, MD'08**, practices internal medicine at the University of California, San Diego (UCSD), Veterans Affairs Medical Center, where he is an attending physician in the emergency department and an instructor to UCSD residents. He enjoys practicing in a variety of internal medicine settings and in rural areas that have no subspecialty care. He also participates in an annual medical mission to Guatemala. He and his wife, Iris, welcomed their first child in July 2018.

HOUSE STAFF NOTES

1950s

**Doris H. Merritt, MD, HS'52-'53, '54-'57**, celebrated reaching her 95th birthday "with mind intact." She retired in 1998 after an extraordinary career that included being the first woman to chair the Board of Regents for the National Library of Medicine, where she helped establish the library's electronic information system in 1978, and serving in a number of roles at the Indiana University School of Medicine, including associate dean and director of



## HOUSE STAFF NOTES

medical research grants and contracts. She lives in Indianapolis, Indiana.

**John Laszlo, MD, HS'59**, is a retired oncologist. He worked at the National Cancer Institute from 1958 to 1989. He was director of clinical research at the Duke Comprehensive Cancer Center and was a professor of medicine at Duke Medical Center from 1959 to 1986. In 1996, he retired from his position as senior vice president for research at the American Cancer Society. He continues to attend conferences and board meetings related to cancer and tumor research. He and his wife, Patricia, have four children and six grandchildren and live in Atlanta, Georgia.

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### 1960s

**Philip Lanzkowsky, MD, HS'61-'62**, is a retired pediatric hematologist-oncologist from the New York City area. He received his medical degree from the University of Cape Town Faculty of Medicine in South Africa. He served as professor of pediatrics at Zucker School of Medicine at Hofstra/Northwell and as chairman of pediatrics and chief of staff of Cohen Children's Medical Center. He is the author of *Manual of Pediatric Hematology and Oncology* (6th Edition) and *How it all Began: The History of a Children's Hospital*. He and his wife, Rhona, have five children, four of whom are doctors and one an attorney.

**Howard J. Zeft, MD, HS'62-'64, '68-'69**, practiced clinical and interventional cardiology in Milwaukee, Wisconsin, for 40 years before retiring in December 2010. His wife, Jane, and he have been married for 51 years. They are enjoying two grandchildren, Eva (22 months) and Gabriel (4 months), and have two sons: Andrew, chief of pediatric rheumatology and immunology at The Cleveland Clinic; and Daniel, an attorney practicing immigration law in Chicago.

**Marshall C. Dunaway, MD, HS'64-'68**, is a retired internal medicine specialist after a career spanning 55 years. He received his education and training at the Emory University School of Medicine and Hospital in Atlanta and at Duke University Hospital, where he completed his fellowship in cardiology and his residency in family medicine. He and his wife, Linden, have three children and four grandchildren and live in Thomasville, Georgia.

**Michael S. Fedotin, MD, HS'68-'73**, retired in 2018 as a clinical physician with specialties in gastroenterology and hepatology. He was a clinical professor at the University of Missouri-Kansas City School of Medicine and served as a member of the American Gastrointestinal Society, American Association of Liver Disease, American Society of Gastrointestinal Endoscopy, and American College of Physicians. He and his wife, Ruth, have been married for 52 years. They have three children, and live in Leawood, Kansas.

**Lewis H. Lipsius, MD, HS'69-'71**, is a retired psychiatrist in Marietta, Georgia, where he lives with his wife, Visitacion. He is proud to report that he "achieved" his 80th birthday last April and his granddaughter graduated from high school with honors.

**Geoffrey A. Wardwell, MD, HS'69-'72**, is retired after serving as chief of radiology and a member of the board of directors at Bronson Methodist Hospital in Kalamazoo, Michigan. He was also president and CEO of Kalamazoo Radiology, PC. He held a teaching position at Michigan State University as associate clinical professor and was president of the Kalamazoo Academy of Medicine. He and his wife, Marjorie, have three children and live in Naples, Florida.

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### 1970s

**Bernard J. Cahn, MD, HS'70-'72**, is a retired dermatologist and real estate professional. He lives in Cartersville, Georgia, with his wife, Paulette. They say both of their grandchildren—Elle (three years old) and Eric (six months)—will be applying to Duke when they are old enough.

**Marc K. Drezner, MD, HS'70-'75**, served on the faculty at Duke University School of Medicine in the field of endocrinology and metabolism from 1975 to 2000. In 2000, he went to the University of Wisconsin-Madison, where he served as the senior associate dean at the School of Medicine and Public Health and as executive director of the Institute for Clinical and Translational Research. In 2018, he retired and became professor emeritus of medicine. He received a Lifetime Achievement Award from the School of Medicine and Public Health. He and his wife, Sherree, have

relocated back to North Carolina and now live in Chapel Hill.

**James H. Wood, MD, HS'73-'74**, is retired after having served as advisory board chairman of Tequity Venture Partners, specializing in health care technology and medical devices; board member and scientific advisor of [NeurobiologyFoundation.org](http://NeurobiologyFoundation.org); and advisor of Touch Pointz Health, which uses artificial intelligence and machine learning to optimize hospital workforce processes. He and his wife, Mary, a registered nurse, live in Atlanta, Georgia. They have two sons, one a senior attorney focused on space law and the other a student in the Southern Methodist University Cox School of Business MBA program.

**W. LaDell Douglas, MD, HS'74-'78**, has been a physician for 42 years, specializing in pediatrics. He built a solo practice from the ground up, Quality Care Pediatrics, eventually serving 3,000 patients with a staff of four. His recent professional accomplishments include serving as a member of several boards of directors, including the University of Arkansas at Hope-Texarkana Foundation; Hope Water and Light Board; Arkansas Foundation for Medical Care; and Hempstead County Economic Development Council, where he serves as vice-president. He and his wife, Elaine, live in Hope, Arkansas.



**Charles Bruce Alexander, MD, HS'75-'79**, retired with emeritus honors in October 2018 after 39 years in the Department of Pathology at the University of Alabama in Birmingham. In 2017, the university established the C. Bruce Alexander Endowed Professorship in Pathology in his honor. He and his wife, Margaret, celebrated their 50th wedding anniversary in August. They live in Birmingham.

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### 1980s

**Joel A. Greenberg, MD, HS'82-'85, '85-'86**, and his wife, Carol Towbin Greenberg, G'86, were honored by Hadassah Savannah

with the 2018 Myrtle Wreath Award and the naming of a neurology suite in their honor at Hadassah Medical Center in Ein Kerem, Jerusalem. The fully equipped patient room was funded through donations by their family, friends, and colleagues. The couple lives in Savannah, Georgia.

**Barbara J. Seaworth, MD, HS'80-'82**, was recognized by the Centers for Disease Control as the 2018 National Physician Tuberculosis Champion for treating multi-drug-resistant tuberculosis patients and providing education programs for caregivers who treat tuberculosis. She also was named a 2018 Health Care Hero by the San Antonio, Texas, *Business Journal*. She is a professor of medicine and infectious diseases at the University of Texas at Tyler and director of the Heartland National Tuberculosis Center in San Antonio. She continues to run marathons and tries to keep up with her six children, as well as her six grandchildren. She lives in San Antonio.

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### 1990s

**Stephen P. Combs, MD, HS'92-'95**, has been named vice president and chief medical officer for Ballard Health Medical Associates, an 800-provider multispecialty group serving Northeast Tennessee and Southwest Virginia. In addition, he serves on both the Virginia Hospital & Healthcare Association's Center for Healthcare Excellence Advisory Council and as clinical professor of pediatrics at East Tennessee State University's Children's Hospital. He lives in Kingsport, Tennessee.

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### 2000s

**Stephen Odaibo, MD'06, G'09, HS'10-'11**, gave the keynote address at the New Innovations in Ophthalmology Session of the 116th National Medical Association Annual Meeting and Scientific Assembly in August 2018. His talk was titled "Artificial Intelligence in Ophthalmology: What Technologies Can be Feasibly Developed Today and How?" His team at RETINA-AI has developed and released the first artificial intelligence mobile app for eye-care providers. He lives in Houston, Texas.

**Horace Mitchell Baker Jr., MD'44, HS'44-'46, HS'48-'51, P'84**, of Southern Pines, North Carolina, died July 27, 2018. He was 96. He served as a captain in the United States Army on medical transport ships. He married Dorothy Ahlswede in 1947, and they shared their lives together for 68 years. After completing a surgical residency at Duke, he practiced as a general thoracic and plastic surgeon for 36 years at Southeastern General Hospital (now Southeastern Health) in Lumberton, North Carolina. He was active in professional organizations including the Medical Society of Robeson County, American College of Surgeons, North Carolina Surgical Society, Seaboard Surgeons, and Duke Division Club. He received the National Medallion from the Boys and Girls Clubs of America, the Veterans Emblem for 50 years of service in the Masons, and the Order of the Long Leaf Pine, North Carolina's highest civilian honor, for service and contributions to the state.

**Joseph J. Billadello, MD, HS'79-'81**, of St. Louis, Missouri, died August 8, 2018. He was 65. He earned his medical degree from Georgetown University School of Medicine and completed his internship and residency in internal medicine at Duke before going to Washington University in St. Louis, Missouri for a fellowship in clinical cardiology and a postdoctoral research fellowship in the Department of Biological Chemistry. He later joined the faculty of the Washington University School of Medicine, where he remained over his long career as a professor of medicine and director of the Adult Congenital Heart Disease Center. In addition to his role as director, he held several leadership positions in organizations focused on providing care for individuals born with heart defects who survive to adulthood and require specialized care. He was a fellow of the American College of Cardiology and an established investigator of the American Heart Association.

**Barrett W. Dick, MD, HS'63-'68**, of Bradenton, Florida, died August 9, 2018. He was 80. Born in Clayton, Missouri, he earned his bachelor's degree at the University of Miami and his medical degree from Washington University in St. Louis, Missouri, before doing his residency and research training fellowships at Duke University Medical Center and the University of Minnesota. He was director of the Hematology Memorial Medical Center in Springfield, Illinois, and clinical professor of pathology at Southern Illinois University School of Medicine, also in Springfield. After retirement, he was a docent at Mote Marine Aquarium in Sarasota, Florida, and a member of the Sandpiper Barbershop Chorus in Bradenton, Florida. He loved fishing, sailing, and camping.

**Prentiss L. Harrison, PA'68**, the nation's first African American physician assistant, died on December 11, 2018. He was 75. He was accepted into

the second class of the Duke Physician Assistant Program after serving as a medical corpsman in the U.S. Army and as an operating room technician at the University of North Carolina Memorial Hospital in Chapel Hill. After graduating from the PA program, he worked at Duke University Hospital and Lincoln Hospital. He later worked at the Princeton University Student Health Service, U.S. Public Health Service, Indian Health Service, and Lower Yukon Health Association before accepting a position and faculty appointment at Baylor College of Medicine, Ben Taub General Hospital. He also served Baylor's Thomas Street Clinic and Riverside Hospital and later owned and operated two clinics in Texas. He was named Distinguished Alumnus of the Duke PA program in 2009. The American Academy of Physician Assistants' African Heritage Caucus recognized him for his part in pioneering the profession.

**Ronald Hurst, AB'53, MD'57, HS'64**, of Spartanburg, South Carolina, died September 6, 2018. He was 86. He completed an internship at the U.S. Army Hospital at Lackland Air Force Base in San Antonio, Texas, graduated from the U.S. Air Force School of Aviation Medicine at Randolph Air Force Base, and served as a flight surgeon in the U.S. Air Force. Following his military service, he returned to Duke to complete his residency in otolaryngology. He established a practice in ENT medicine and head and neck surgery in Spartanburg and co-founded the Spartanburg ENT Head and Neck Surgery Clinic. He served on the executive committee at Spartanburg Regional Medical Center and as the chief of staff at Doctors Memorial Hospital. He belonged to medical organizations including the South Carolina Medical Association; American Academy of Otolaryngology-Head and Neck Surgery; American Academy of Facial, Plastic and Reconstructive Surgery; and Spartanburg County Medical Society.

**Rufus Knott II, MD, HS'65**, died December 14, 2018. He was 80. He earned his bachelor's and medical degrees at the University of North Carolina at Chapel Hill and then did an internship at Georgia Medical School in Augusta, Georgia, before serving a residency in ear, nose, and throat (ENT) at Duke University School of Medicine. He was a major in the U.S. Air Force at Scott Air Force Base, where he was chief of ENT surgery during the Vietnam War. He entered private practice in Greenville, North Carolina, and served at Pitt ENT for 30 years. He was named a Fellow by the American Academy of Ophthalmology and Otolaryngology.

**Willoughby Lathem, MD, HS'47-'48**, died October 4, 2017. He was 93. Born in Atlanta, Georgia, he graduated from Emory University School of Medicine in 1946. He served in the U.S. Army from 1943-1950 and was a captain in the U.S. Army Medical Corps in Germany from 1948-1950. He played a vital role in the Berlin Airlift. During an illustrious career in international health, he held

significant positions with the Rockefeller Foundation and was seconded to the World Health Organization in Geneva, Switzerland, completing tours in Bangkok and Brazil. He was vice president and medical director at Sterling Drug, Inc., from 1980 until his retirement in 1991. In addition to several awards for his medical work, he was named a Fellow of the American College of Physicians in 1961. He was an avid skier, sailor, and opera buff all his life.

**Harry T. McPherson, AB'46, MD'48**, of Durham, North Carolina, died August 8, 2018. He was 92. He entered Duke University at age 16 on a combined undergraduate and medical school curriculum. He was a member of Phi Beta Kappa and the Alpha Omega Alpha honor medical society, and he received the Borden Undergraduate Research Award in medical school. After an internship at the University of Wisconsin Medical School, he returned to Duke for residency and fellowship in endocrinology. He served in the U.S. Army Medical Corps during the Korean War and then in Japan at Tokyo General Hospital. Following his military service, he became chief resident in Duke University School of Medicine Department of Medicine. He remained at Duke for his entire career as a professor of medicine. He was a member of the Endocrine Society, the American College of Physicians, and other national and regional medical societies.

#### **DONOR**

**Alan L. Kaganov, BA'60, PhD, MBA**, died February 2, 2019. He was 80. He and his wife, Carol, supported numerous programs at Duke University, many of them collaborations between Duke University School of Medicine and the Pratt School of Engineering. In 2017, they established the Kaganov Research Initiative in Pulmonary Medicine and Engineering to develop new approaches to pulmonary disease fostering collaborative research between medicine and engineering. A pioneer in biomedical engineering, Kaganov helped develop treatments for many conditions and held 15 U.S. patents. He earned an MBA at New York University and his doctorate from Columbia University. He held leadership positions at companies including Johnson & Johnson, Lederle, Baxter Healthcare, EP Technologies, Boston Scientific, U.S. Venture Partners, Aptus Endosystems, NewUro, Neuros Medical, Atricure, St. Francis, A-Med Systems, Sanarus Technologies, Spinal Elements, and Flextronics. In addition to their philanthropy at Duke, he and Carol have supported institutions including Columbia, the Gladstone Institute, and the San Francisco Symphony.



## Tune in to Dean Klotman's Podcasts

### VIEWPOINT

Dean Mary E. Klotman, MD, BS'76, MD'80, HS'80-'85, shares her perspective on timely issues such as diversity in academic medicine, the importance of data science, and the Translating Duke Health initiative. Tune in to her latest podcast and catch up on previous episodes at:



[medschool.duke.edu/viewpoint](https://medschool.duke.edu/viewpoint)

Episode 7: **What are Duke researchers doing to better understand Alzheimer's and other brain diseases?**

Episode 8: **Why is the study of the immune system so important, and what is the impact of that research?**

### FROM ONE DUKE TO ANOTHER

Dean Klotman hosts a conversation with a member of the School of Medicine community about timely topics in medical education, research, and care. Tune in at:

[medschool.duke.edu/about-us/news-and-communications/one-duke-to-another](https://medschool.duke.edu/about-us/news-and-communications/one-duke-to-another)

Episode 1: **A Conversation with Dr. Linton Yee, Associate Dean of Admissions**

Episode 2: **A Conversation with MSTP Student Shree Bose**

Episode 3: **Coming Back and Giving Back . . . Duke Med Alums Talk About the Ties That Bind**

### DATES OF INTEREST

**May 1** Robert J. Lefkowitz, MD, Distinguished Lecture featuring James A. Spudich, PhD  
4:00 PM, Trent Semans Center for Health Education, Great Hall

**May 10** School of Medicine Hippocratic Oath and Diploma Ceremony  
7:00 PM, Duke Chapel

**May 12** University Graduation Ceremony  
9:30 AM, Wallace Wade Stadium

**May 15** Summer Term Classes Start

**May 16** Clinical Science Day  
4:00 PM, Trent Semans Center for Health Education, Great Hall

**May 24** North Carolina Summit on Child Health  
9:00 AM, Trent Semans Center for Health Education, Great Hall

**June 3-6 and June 10-13** Population Health Sciences Summer Institute  
The Imperial Building, 215 Morris St., Suite 210

**July 29** MS I and MS II, School of Medicine Fall Term Begins

**August 17** MS III and MS IV, School of Medicine Fall Term Begins

**August 2** White Coat Ceremony  
6:00 PM

**Sept. 21** 17th Annual Gail Parkins Memorial Ovarian Cancer Walk and 5k Run  
Raleigh

**Nov. 7-10** Medical Alumni Weekend

For more details and other events please visit:

[medschool.duke.edu/about-us/calendar](https://medschool.duke.edu/about-us/calendar)



Triplets Connor, Preston, and Max Tank / 2 years old

PARENTS:  
Tracy and William Tank, DPT'11



Beckett Oswald / 5 months old

PARENTS:  
Georgia and Cameron Oswald, MD, T'13, HS'19

Presenting the Duke University School of Medicine **Class of 2045-ish**, give or take. Many thanks to those alumni who responded to our invitation to share photos of their future Blue Devils.

If you'd like to see your family represented here in the next issue, send us a photo of your young Blue Devil(s)-to-be wearing their Duke pride, along with a few details (name, age, town or city of residence). The first five alumni who submit a photo will receive a Duke t-shirt.

Please email high-resolution photos (at least 1 MB) to [dukemed@dm.duke.edu](mailto:dukemed@dm.duke.edu).

# BLUE DEVILS IN TRAINING



Michael Moffat /  
4 years old  
PARENTS:  
Christine and  
Andrew Moffat , HS'14



Henley Gray Martin / 2 months old  
PARENTS:  
Stephanie and Justin Martin  
GRANDPARENTS:  
Carol , G'86 and  
Joel Greenberg, MD, HS '85-'86



Everett Kevern / 1 day old  
PARENTS:  
Mark, MD'04 and  
April Kevern, MD'06



Fitz Wiley Dyer / 3 months old  
PARENTS:  
Stephen and  
Laura Dyer MD'01, MHS'00



Langston Garrido / 5 years old  
PARENTS:  
Casey and  
Ramiro Garrido, MD'15





From left, Oretunlewa Soyinka, Aaron Hein, Gireesh Reddy, Kelsey Corrigan, Olayode Babatunde, Hassan Alkazemi, Rhya Zhao.



Watch students open their match envelopes: [bit.ly/2I4yJei](https://bit.ly/2I4yJei)



From left, George Tran, Tingrui Zhao, Stephen Wahlig, Justin Zhuo.

# MATCH DAY 2019

On March 15, medical students at Duke opened their envelopes and learned where in the country they will complete their residency programs.

A total of **117** students participated in Match Day at Duke this year and are headed to some of the nation's most prestigious residency programs.

## WHERE STUDENTS MATCHED:

- 31** Duke
- 8** Harvard
- 6** UC, San Francisco
- 5** University of Pennsylvania
- 5** Military medical centers
- 4** University of Washington (Seattle)
- 4** Washington University in St. Louis

## STUDENTS MATCHED IN THE FOLLOWING SPECIALTIES:

- 6** Anesthesiology
- 7** Dermatology
- 4** Emergency Medicine
- 1** Family Medicine
- 10** General Surgery
- 25** Internal Medicine
- 1** Interventional Radiology
- 2** Medicine-Pediatrics
- 3** Neurology
- 3** Neurosurgery
- 5** Obstetrics & Gynecology
- 6** Ophthalmology
- 7** Orthopaedics
- 4** Otolaryngology
- 0** Pathology
- 8** Pediatrics
- 1** Physical Medicine/Rehabilitation
- 6** Plastic Surgery
- 1** Psychiatry
- 5** Radiation Oncology
- 4** Radiology
- 1** Thoracic Surgery
- 4** Urology
- 2** Vascular surgery

## MOST FREQUENT LOCATIONS BY STATE:

- 33** North Carolina
- 14** California
- 8** Massachusetts
- 7** Pennsylvania
- 7** New York
- 6** Texas

CHRIS HILDRETH